October 27, 1958

Paper Trade Journal

Unique New Tissue Fourdrinier at Wiggins Teape Bridgend Mill

Sweden's First Postwar Kraft Mill Has Interesting Features

New Handling and Processing Upgrades Finishing at Howard

Recent Patterns in Pulpwood Procurement for Pulp Mills

When Gottesman enters the picture...

you get the same, fine service for all grades of pulp

Through the Gottesman Organization, outstanding pulp producers everywhere supply you with Bleached and Unbleached Sulphite, Bleached Hardwood, Groundwood, Bleached, Semi-Bleached and Unbleached Kraft in the quality and quantities you must have for efficient production. And no matter what the grade of pulp, our service reflects over 70 years of experience in satisfying our many customers.

The Gottesman Organization

Established 1886

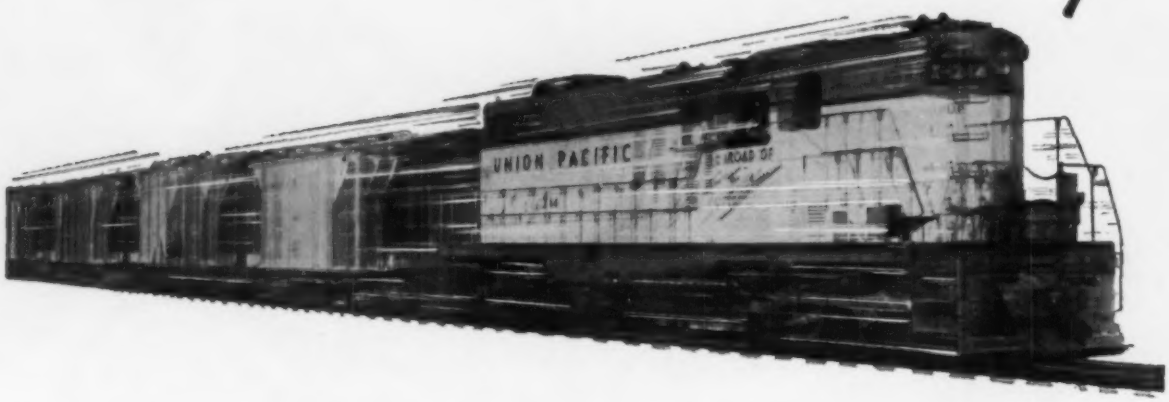
GOTTESMAN & COMPANY, INC. • CENTRAL NATIONAL CORPORATION
CENTRAL NATIONAL COMMERCIAL COMPANY, INC.
100 PARK AVENUE, NEW YORK 17, N.Y.

WOOD PULP G

PULP PAPER EXPORT CNC

Gottesman & Company Aktiebolag, Stockholm, Sweden • Central National-Gottesman Limited, London, England • Representatives in 55 Leading World Markets

you say *when and how many*



Westvaco® Soda Ash is "delivered as promised" by America's largest hopper-car fleet!

Around the clock and around the calendar, some 300 Westvaco Soda Ash covered hopper-cars are in regular customer service. That's by far the largest fleet of modern cars in the industry. It's one more good reason why you'll be happy with Westvaco Soda Ash.

Other reasons?

Product quality—chemical and physical. Shipping specs held consistently between 99.75% and 99.88% so you get more Na_2CO_3 per gross ton. Low iron and other impurities that might discolor solids, mixtures or solutions. Fewer fines, less dusting. Free flowing for faster unloading and handling.

Increasing plant efficiency continues to make more Westvaco Soda Ash available for more users in our shipping area covering two-thirds of the United States. It's quite probable you can get premium quality Westvaco Soda Ash without paying one penny more.

Why not get our quotation on a fair share of your needs?

Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION

Westvaco Chlor-Alkali Division

General Sales Offices:
161 E. 42nd STREET, NEW YORK 17

Picture of a Money-Saving Moment

...shows the Cameron Shaftless Unwind Pickup about to lift a mill roll to unwind position at the feed end of a Cameron 14 Slitter-Rewinder at P. H. Glatfelter Co. The automatic loading operation is controlled from the operator console. The mill roll capacity is 6" to 92" wide, and 60" diameter.* Features include: hydraulically operated pickup arms; automatic centering of mill roll; manual skew adjustment; two water-cooled brakes; edge guiding; mill roll oscillation; and removable chucks adaptable for various sizes of paper cores, metal-ended cores, or iron pipe cores.

**Also available in smaller models for 42" diameter roll or larger models for 72" diameter roll.*

JACK MILLER, Paper Division Superintendent, and STEWART BURNS, Finishing Department Superintendent, checked all possibilities, then chose Cameron. P. H. Glatfelter Co., established at Spring Grove, Pa. in 1864, is a completely self-contained paper-making operation, from vast company-owned forests and water supply reservoirs to the fine book, bond and converter specialty papers for which their name is famous. Roll production equipment at Glatfelter includes two Cameron 14 Slitter-Rewinders and a Cameron 19 Mill Type Winder.

Why Glatfelter Chose the CAMERON Shaftless Unwind Pickup

The new Cameron Shaftless Unwind Pickup at Glatfelter increased operating speed by 50% compared to shaft-type backstands. It reduced set-up time 75%. It eliminated troublesome web "whip", thus assuring reliable quality control, even at top speed.

To find the best unwind equipment available today Glatfelter management investigated all possibilities. They liked Cameron's simplicity of operation. They saw its promise of dependable high productivity. They recognized the *inward excellence* of Cameron's new concept of shaftless design and construction... and they chose Cameron.

Reports from Glatfelter tell us that the Cameron Shaftless Unwind Pickup has surpassed its promise in speed, quality, dependability and economy of operation.

Now, don't let time and money losses pile up. Whether your need is to correct a minor fault in roll production, or to engineer a major installation of slitting and roll winding equipment, it always pays to call in a Cameron team. Do it today!

Cameron Machine Company, Franklin Road, Dover, N. J.

Canada: Cameron Machine Co. of Canada, Ltd., 15 Hatt St., Dundas, Ontario

France: Batignolles-Chatillon, 5 Rue De Monttessuy, Paris (7e) France

Built by Cameron's team of specialists

52 years devoted exclusively to the design and manufacture of slitting and roll winding equipment.

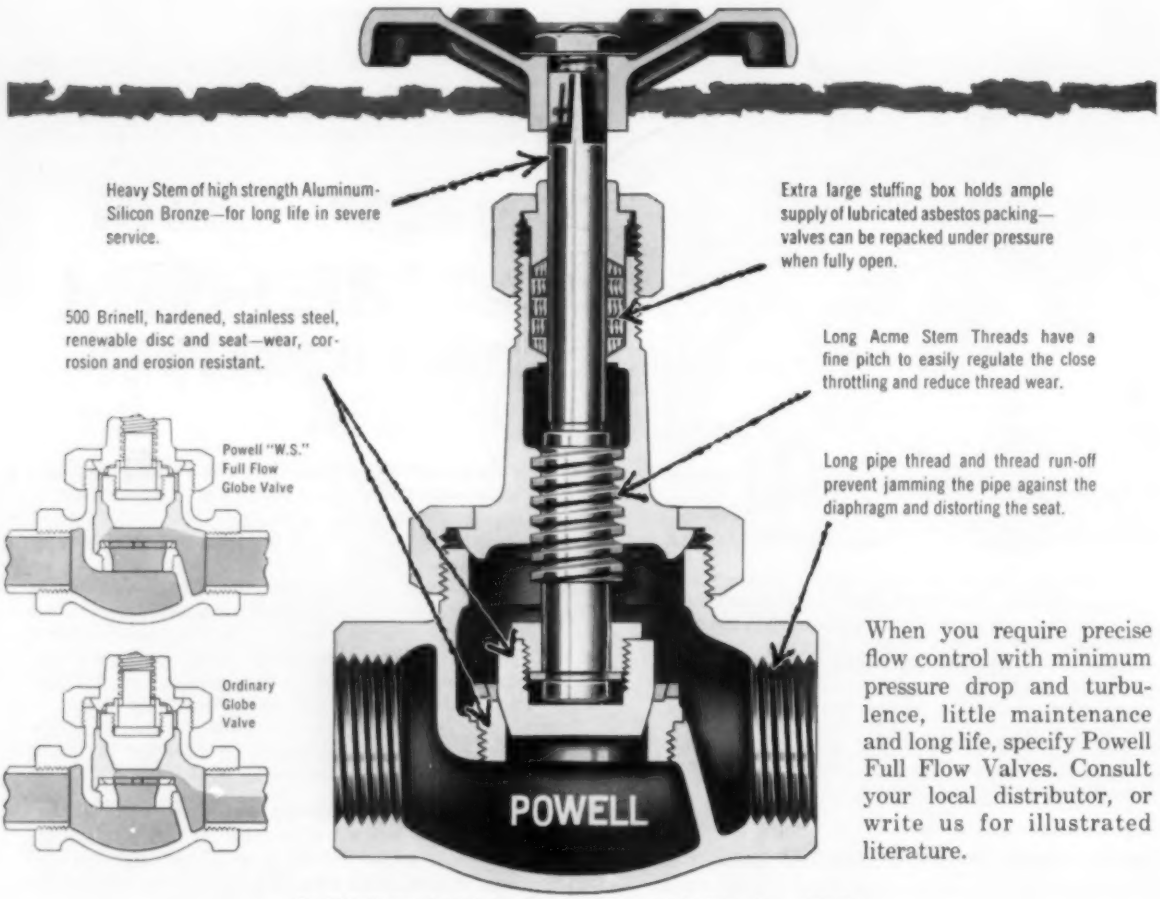
BULLETIN!

POWELL introduces new member in world's largest family of valves

Powell engineered "Full Flow" bronze valves are now available in a full line: the brand-new 150-pound screwed end Globe Valve, in addition to the well-known 200-300 pound Screwed and the 150-300 pound Flanged Globe and Angle Valves.

Although designed by Powell to assure maximum flow with minimum pressure drop and internal turbulence, these valves can be throttled to permit only the minutest amount of fluid to pass through. And, if desired, they can be supplied with Indicator Collar, Arm and V-port Disc for quickly determining flow and holding it constant.

Compare these advantages of Powell Full Flow valves:


Heavy Stem of high strength Aluminum-Silicon Bronze—for long life in severe service.
Extra large stuffing box holds ample supply of lubricated asbestos packing—valves can be repacked under pressure when fully open.
500 Brinell, hardened, stainless steel, renewable disc and seat—wear, corrosion and erosion resistant.
Long Acme Stem Threads have a fine pitch to easily regulate the close throttling and reduce thread wear.
Long pipe thread and thread run-off prevent jamming the pipe against the diaphragm and distorting the seat.
Powell "W.S." Full Flow Globe Valve
Ordinary Globe Valve
POWELL

When you require precise flow control with minimum pressure drop and turbulence, little maintenance and long life, specify Powell Full Flow Valves. Consult your local distributor, or write us for illustrated literature.

Fig. 2600 (Sectional)—150-pound "W.S." Full Flow Globe Valve, Screwed Ends

THE WM. POWELL COMPANY • *Dependable Valves Since 1846* • **Cincinnati 22, Ohio**

ANNOUNCING

VINYL-ACRYLIC

COPOLYMER LATEX

photomicrograph
of vinyl-acrylic
RESYN® 2203 particles

upgrades all types of coatings

RESYN 2203 is a new vinyl-acrylic latex that promotes stronger coating bonds to paper. Offers high pigment binding power as well as strong affinity for cellulose fibers. Produces a highly flexible coating, with good calenderability. Yet imparts no limpness to base stock.

RESYN 2203 offers good mechanical stability and is compatible with starches and other coating materials.

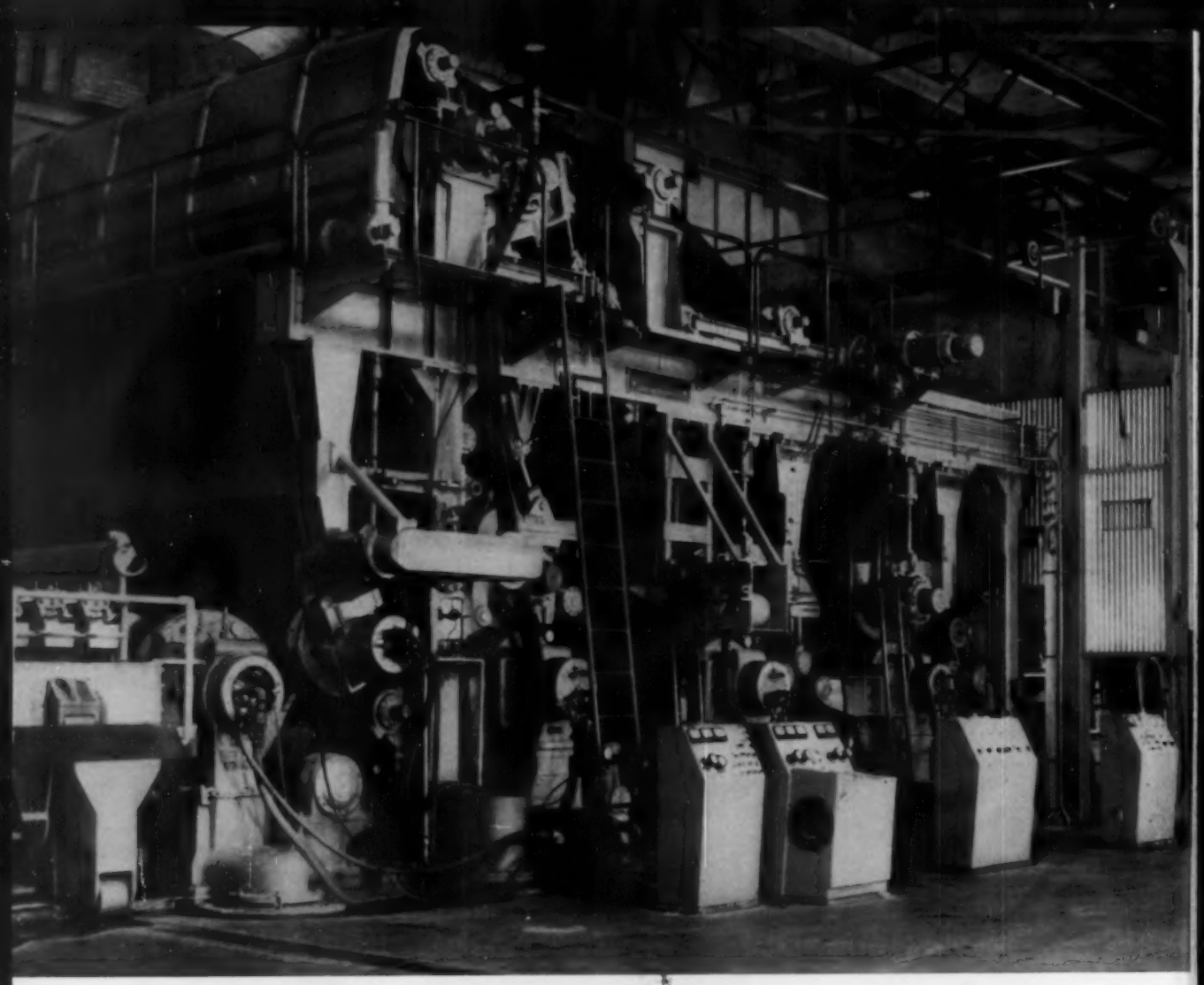
When dry, films exhibit no cloudiness and are virtually odorless. Resistance to oil and water is excellent.

RESYN 2203 can improve all types of coated papers and boards — from offset and letterpress stocks to bread wraps and boxboards. Sound interesting? Write for technical data and suggested formulations. Or call your nearest National office.

National

STARCH PRODUCTS INC.

270 Madison Avenue, New York 16 • 3641 So. Washtenaw Avenue, Chicago 32 • 735 Battery Street, San Francisco 11



Add mileage to your paper runs

The efficiency of your paper-making machinery is only as good as the condition of its bearings. That's one reason why lubrication techniques and products are receiving the serious consideration of cost-conscious operating management.

Texaco Paper Machine Oil HD is especially tailored to the needs of paper machines—and the efficiency that results from the use of this oil can literally add miles to your paper runs. Fully detergent and dispersive, it keeps the system clean, prevents accumulation of wear-causing carbon, dirt, sludge or other contaminants on dryer roll bearings—significantly reducing the need for costly downtime.

Effective oxidation resistance is another built-in advantage of *Texaco Paper Machine Oil HD*—and water separation is remarkably quick and easy. All these features add up to increased efficiency for you . . . more paper for less cost.

Get full details from your local Texaco Lubrication Representative. Just call the nearest of more than 2,000 Texaco Distributing Plants in the 48 States or write to:

☆ ☆ ☆

The Texas Company, 135 East 42nd Street, New York 17, New York.

LUBRICATION IS A MAJOR FACTOR IN COST CONTROL

(PARTS, INVENTORY, PRODUCTION, DOWNTIME, MAINTENANCE)

Paper Trade Journal

PUBLISHED WEEKLY SINCE 1872

Published every Monday by Lockwood Trade Journal Co., Inc., 49 West 45th Street, New York 36

Phone: PLaza 7-2370
Cable Address: Lockmin

Week of October 27, 1958—Vol. 142, No. 43

TRENDS 9

NEWS OF THE WEEK 11

FEATURE ARTICLES

Sweden's First Kraft Mill in Twenty-five Years Starts Up This Fall 24

Integrated Handling and Processing Upgrades Finishing Operations 30

Britain's First Post-War Paper Mill Adds Another Machine 34

Present Practices and Future Plans of Mills to Provide Own Pulpwood 42

PAPER PEOPLE 13

FIGURES OF THE WEEK 14

NEW EQUIPMENT & SUPPLIES 16

NEWS OF CONVERTERS 18

NEW LITERATURE 44

PRICES OF FIBERS 46

OBITUARIES 47

NEWS OF SUPPLIERS .. 48

CLASSIFIED ADVERTISING 52

ADVERTISERS INDEX .. 56

JOHN C. W. EVANS
Editor

PAUL D. VAN DERVEER
Associate Editor

R. E. THUEMMES
Associate Editor

V. B. HAWKINS
Managing Editor

ARTHUR KUDNER
Assistant Editor

W. N. PERRY
Staff Artist

LOCKWOOD TRADE JOURNAL CO., INC.

GEORGE E. LOCKWOOD.....President and Treasurer
ARTHUR E. GORDON.....Vice President
FREDERICK E. WINKLER.....Secretary

Entered as Second Class Matter at the post office at East Stroudsburg, Pa., under Act of Congress of March 3, 1879. Publication Office at Lockwood Trade Journal Co., Inc., 34 North Crystal St., East Stroudsburg, Pa. Printed in U.S.A. Copyright 1958 by Lockwood Trade Journal Co., Inc. Paper established Feb. 17, 1899, combined with Paper Trade Journal Nov. 16, 1899, Paper established Sept. 21, 1910, combined with Paper Trade Journal February 19, 1926. All rights to the above titles reserved. Contents of Paper Trade Journal, including all articles, illustrations, etc., are copyrighted and may not be reprinted except by permission. Also publishers of Lockwood's Annual Directory of the Paper and Allied Trades.

REMEMBER THESE DATES

Nov. 10-12: National Paperboard Assn. Annual Meeting, Waldorf-Astoria Hotel, New York City

Jan. 28-30, 1959: Canadian Pulp and Paper Assn. Annual Meeting, Queen Elizabeth Hotel, Montreal

Feb. 23-26, 1959: Paper Week in New York

SUBSCRIPTIONS →

Paper & Pulp Mills, Converters and their Personnel	1 yr.	2 yrs.	3 yrs.
United States	$5.00	$8.00	$10.00
Canada and U. S. Possessions	7.00	11.00	14.00

All others than above, price per year:
U. S.: $7.50—Canada and U. S. Possessions: $10.00.

Latin American Countries	15.00	25.00	30.00
All Other Countries	20.00	30.00	40.00

Single copy price of current issues:
North America 50c Foreign $1.00

R. E. BOETSCH Director of Circulation

PAPER TRADE JOURNAL—49 W. 45th St., N.Y. 36, N.Y.
Please enter a subscription with the mailing address as follows:

Name .....
Address .....
City ..... Zone .... State .....
If subscription is for an individual, please fill in:
Employer ..... City ..... State ...
Position ..... Employer's Business .....
Amount $ ..... ☐ Bill Me ☐ Bill Company ☐ Check Enclosed

KIMBERLY-CLARK CORPORATION

Another of the 25 largest paper companies using S-W facilities and abilities for the re-covering of rubber rolls.

.....ROLL SERVICE PUTS MORE PROFIT IN PAPER

STOWE-WOODWARD, INC. Griffin, Georgia • Newton Upper Falls, Mass. • Neenah, Wisconsin
On the West Coast: HUNTINGTON RUBBER MILLS, INC., Seattle 88, Washington

Trends

Jan.—Sept. Production Off Less Than 2% from '57

Preliminary paper and board production for the first nine months of this year totaled 22,971,000 tons, approximately 1.7% below total production for the comparable period last year. The sharp increase in total production over the past several months can be primarily attributed to the marked improvement in paperboard production as evidenced by that industry's high weekly production ratio.

New Tonnage Record for Board

Paperboard production for the week of October 18th hit a new high of 314,445 tons (See page 11 for details). The previous record of weekly tonnage was made in October 1958. During the first three weeks of October board mills have been running about 95% of capacity and paper mills 91%.

Big Gain in Bldg. Saturating Papers

Consumption of roofing felts and other similar papers for asphalt and tar roofing and siding products showed a big gain in August according to the Dept. of Commerce report, dated October 15th. Shipments of asphalt roofing were up 32% over July (+27% over August 1957), and asphalt sidings were up 22% over July (+11% over August 1957). Insulated siding was off 5% over July and 13% below August of last year.

Folding Boxes Holding Their Own

Folding boxes in September made slight improvement. While tonnage lagged slightly, dollar volume topped the same period in 1957 by 0.6%.

Newsprint Picture Better in September

North American newsprint production in September was 1.2% above the same month last year although shipments were off 1.6%. Both Canadian and U.S. production were ahead but only U.S. shipments were above last year's.

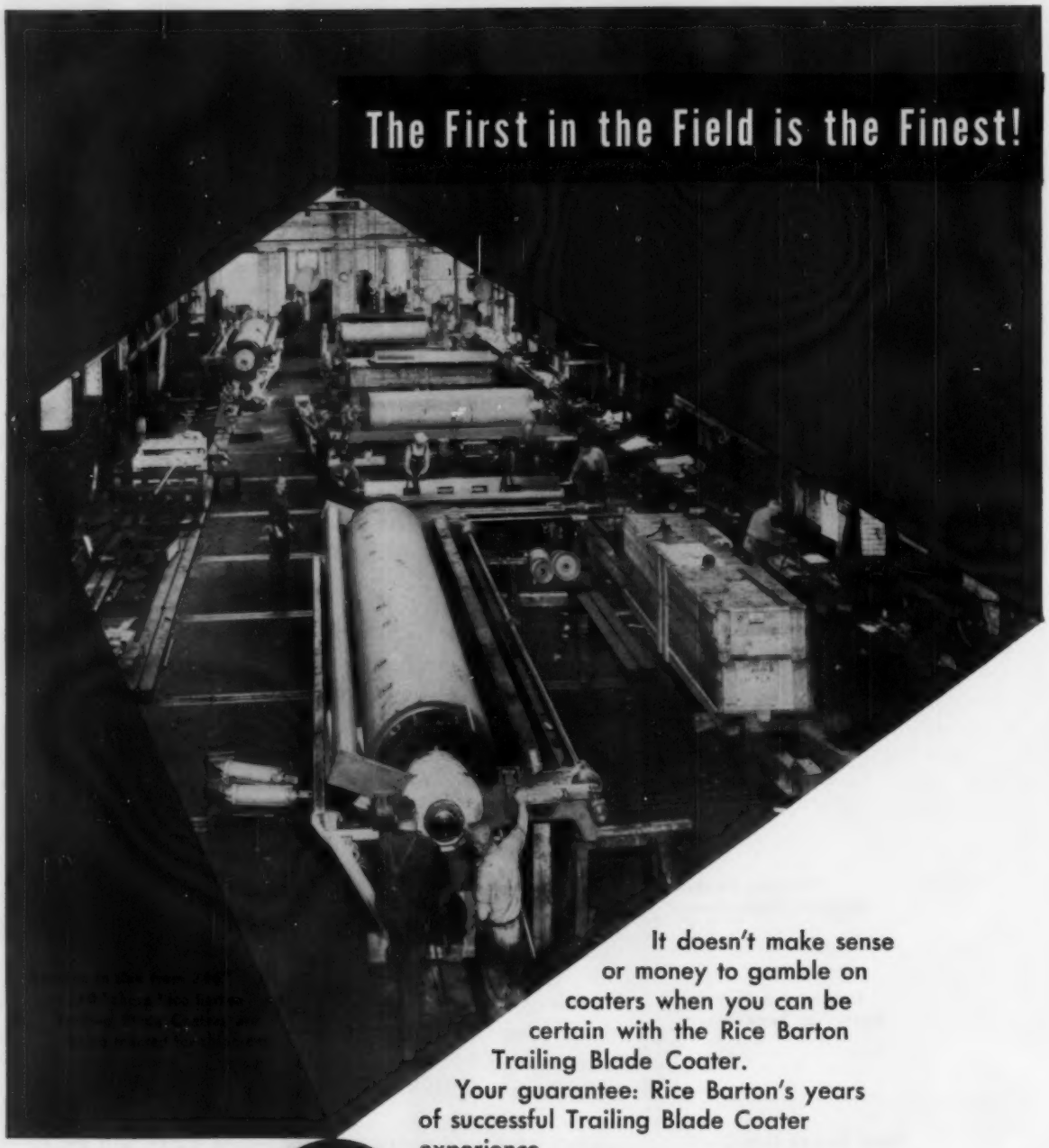
New Rayon Tire Cord Improves Sales Outlook

A new improved rayon tire cord called Tyrex will aid rayon in its battle for the tire market, with direct benefits to mills producing dissolving pulps. Tyrex is a cooperative development of five major rayon producers. Tire cord is rayon's biggest single market, accounting for over a third of rayon shipped.

More Expansion Programs Announced

Four new mill or major expansion programs are announced in three news items on page 11 in this issue, two in Canada and two in this country. In line with our recent warnings on this page, it is interesting to note that none are for newsprint or market pulp mills, although one is planned for container board.

The First in the Field is the Finest!



It doesn't make sense or money to gamble on coaters when you can be certain with the Rice Barton Trailing Blade Coater.

Your guarantee: Rice Barton's years of successful Trailing Blade Coater experience.

RICE BARTON

RICE BARTON CORPORATION

WORCESTER, MASSACHUSETTS

Paper Machinery Builders Since 1837

Gulf States Paper $20 Million Program

A $20 million construction and modification program for Gulf States Paper's Tuscaloosa and Demopolis mills has been announced. The new investment represents the next phase in the continued growth and development of the company, according to Jack W. Warner, president. It is the third major expansion of Gulf States in the past decade. Production of the Tuscaloosa mill was increased in 1948, and the new Demopolis mill was opened last year. The program will extend over the next three years and be financed partially by a long-term loan from the New York Life Insurance Co. The total cost is expected to be approximately $20 million.

Part of the investment will be used to expand the Demopolis mill to make possible the production of a wide range of finished and semi-finished paper and pulp products. These products will range from the fine, bleached pulp now being made there from southern pines and hardwoods, to fine, white papers.

"Plans for the Tuscaloosa plant," said Mr. Warner, "call for modifications and modernization to improve further the quality of the products now being manufactured, a quality now recognized as number one in the industry, and to increase the product line in order that Gulf States Paper may better serve its customers."

Powell River Plans New Mills

Powell River Co. plans to build a flake board plant and a fine paper mill in British Columbia. Cost of the two projects will be near $8 million.

Engineering is proceeding on the fine paper mill and construction is scheduled to start at year end. No final decision has been made as to the location, but it is expected to be in the Greater Vancouver area.

Pulp and Paper Corrosion To Be Featured

Corrosion problems encountered in the pulp and paper industry will be dealt with in two sessions of a symposium to be presented at the 15th Annual NACE Conference and 1959 Corrosion Show, March 16-20, 1959, Chicago, Ill. at the Sherman Hotel. A total of seven technical papers and an address by Dr. Roy Whitney, Dean, Institute of Paper Chemistry, will be presented. Titles of papers and their authors are:

Keynote Address on the Corrosion Engineer's Place in the Pulp and Paper Industry, by Dr. Roy Whitney, Dean, Institute of Paper Chemistry.

Anodic Protection of Alkaline Pulping Digesters, by W. A. Mueller; Pulp and Paper Research Institute of Canada, Montreal, Canada.

Hortonclad, by R. A. Davis, Chicago Bridge and Iron Works, Birmingham, Ala.

Union Bag-Camp Paper Corp. Experiences with Digester Corrosion, by C. S. Porter, Design Engineer, Savannah, Ga.

A Modern Approach to Planning a Maintenance Coating Program, by M. W. Bilue, protective coatings consultant, Champion Paper & Fiber Co., Texas Division.

Neoteric Answers to Corrosion Problems in the Pulp and Paper Mill Industry in the Southeast, by Arthur B. Smith, district manager, Amercoat Corp., Jacksonville, Fla.

Plastic Solutions to Corrosion Problems in the Pulp and Paper Industry, by Thomas F. Anderson, director of research & development, Haveg Industries, Inc.

A Look at Plant Maintenance Programs in Regard to Corrosion, by S. John Oechsle, Jr., executive vice president, Metalweld, Inc.

Paperboard Production Reaches Record High

The nation's paperboard mills produced a record 314,445 tons during the week ending October 18,1958, the highest in the industry's history, Albert W. Luhrs, executive manager, National Paperboard Assn. announced. The previous record was esetablished just a year ago when the mills turned out 309,950 tons.

New orders also were above those received during the corresponding week of 1957. These totaled 283,000 for the week of October 18, 1958, as against 255,000 tons during the same week of 1957.

As of June of this year, paperboard production on a cumulative basis was 5½ per cent behind the same period in 1957. Recent increases over the previous year have cut this decline to only 1.8 per cent below the accumulated figures of 1957 as of October 21.

Tennessee River Co. Moving Ahead

The Tennessee River Pulp & Paper Co. is exercising options on land for plant site at Counce, Tenn. according to G. W. E. Nicholson, president.

The company plans to build a 500 ton daily capacity kraft pulp and containerboard mill at Counce which is on the Tennessee river, a few miles from the Alabama border one third the way between Memphis and Chattanooga.

St. Regis and Kress Complete Merger Agreement

St. Regis Paper Co. and the F. J. Kress Box Co., Pittsburgh, Pa., jointly announce a merger agreement based on an exchange of two and one-quarter shares of St. Regis common stock for each share of Kress. The latter has outstanding 128,200 shares of capital stock.

Kress Box, a long established manufacturer of corrugated and fiber shipping containers, operates plants at Pittsburgh, Pennsylvania; Newark, Ohio; Washington, Pennsylvania and Hagers-

Paper and Board Production

According to the American Paper and Pulp Assn., the ratio of the United States production to mill capacity for the week ending October 11, 1958, was 91.7 per cent compared with 90.2 per cent revised for the preceding week. The ratio was 91.0 per cent for the corresponding week a year ago.

The paperboard production ratio for the week ending October 11, 1958, was 95 per cent compared with 95 per cent for the preceding week and 97 per cent for the corresponding week last year.

(Detailed statistics on page 14.)

town, Maryland, with a total capacity of six million square feet of daily production. Sales of Kress in 1958 will approximate $20,000,000 and the company provides employment for some 900 persons at its four plants.

Organized in 1880 as a manufacturer of wooden boxes, Kress was one of the first U. S. manufacturers to produce a corrugated box, and pioneered many developments in the industry since the company began the transition from wooden to fiberboard in 1911.

On consummation of the merger, it is indicated Kress Box will be operated as a division of St. Regis, but with the same management and management policies. Present officers, who will continue in these posts, are: J. Burk LeClere, President; Philip B. Duffy, Executive Vice President; James B. Lytle, Vice President and Treasurer; Joseph R. McLaughlin, Vice President and Sales Manager; Sylvester R. Lipinski, Vice President and General Production Manager; Clyde O. Steck, Vice President; Robert D. Devlin, Director of Purchases and Secretary; Thomas C. LeClere, Asst. to President and Director of Public Relations and Advertising.

Stock of Kress Box is held substantially by members of the company's management.

Kress Box has a long term agreement with Sonoco Products Co. providing it with virtually all of the output of .009 semi-chemical corrugated materials from Sonoco's plant at Hartsville, S. C. This plant produces 55,000 tons of board annually and its capacity is capable of being doubled by the addition of driers.

The acquisition of Kress marks a further step in St. Regis' broadening of its operations in the paper converting and container fields.

What's Wrong with Madison?

Senator Proxmire (Democrat—Wis.) is still agitating for the Federal Government to build a pilot plant to investigate the manufacture of newsprint from Lake States hardwoods. The senator continues to talk as if the manufacture of newsprint from hardwoods were a brand new idea of his and one on which no work had been done previously. He continues to ignore the fact that already located in his own state is one of the finest pilot plants in the country for investigating pulp processes and papermaking, the U. S. Forest Products Laboratory at Madison, Wis. The Madison laboratory has been pioneering in the pulping of hardwoods for nearly forty years.

While the senator refuses to acknowledge the existence of a large body of information on the manufacture of newsprint from hardwoods and that the problems of newsprint manufacture are more economics than technological, he does seem well aware that any statement with the word newsprint in it will guarantee him space in the newspapers.

Palatka Now Making White Paper

W. W. Stuart, assistant vice-president and resident manager of the Palatka, Fla., mill of the Hudson Pulp & Paper Corp., has announced that the Palatka mill has successfully produced bleached white kraft paper. The mill has been producing white tissue from kraft pulp, but this is the first time the plant has attempted to produce a white paper.

"Production of this white kraft will completely broaden our production lines," Mr. Stuart said. "This type of kraft can be used now in the production of white grocery bags and multiwall sacks, for our gummed tapes and for sheets and counter rolls."

September, 1958 Newsprint Statistics

Production of newsprint in North America during September, 1958 amounted to 627,993 tons and was 1.2 per cent above the September, 1957 volume. Shipments totaled 635,048 tons in September, 1958 and were 1.6 per cent below shipments in the corresponding month of 1957. According to the Newsprint Service Bureau, output in the United States was 137,209 tons and shipments were 139,729 tons and respective increases from September, 1957 amounted to 2.6 per cent and 5.3 per cent. Canadian production amounted to 490,784 tons while shipments totaled 495,319 tons, which represent an increase of 0.9 per cent in production and a decrease of 3.4 per cent in shipments from the year ago levels.

Production of newsprint paper in North America through the end of September, 1958 amounted to 5,862,875 tons which was 444,811 tons or 7.1 per cent below the historical high attained in the same period of 1957. United States mills produced 1,305,761 tons or 94,269 tons and 6.7 per cent less than in the first nine months of 1957. Output in Canada amounted to 4,557,-114 tons and was 350,542 tons or 7.1 per cent under the volume produced in the first nine months of 1957.

North American manufacturers' stocks on September 30, 1958 aggregated 245,915 tons compared with 252,-970 tons on the last day of the preceding month and 196,892 tons at the end of September, 1957. The continental total was composed of 22,593 tons and 223,322 tons held by United States and Canadian mills respectively and inventories were higher than a year ago by 5,596 tons in the former instance and by 43,427 tons in the latter.

Canadian Summary

Canadian fine paper output in August was 19,837 tons, down 6.8 per cent from the 21,295 tons produced in the same month last year. Production in the first eight months was off 2 per cent at 170,378 tons as compared with 173,852 tons a year ago.

Shipments were also lower. In August, Canadian consumers took 18,834 tons and exports were 1,355 tons for a total of 20,189 tons. In August 1957 shipments totalled 20,683 tons including 19,052 tons to the domestic market and 1,631 tons shipped abroad.

Fine paper shipments to the end of August were 169,289 tons as against 171,698 tons last year. Included in this year's total were exports of 10,426 tons, as compared with 10,575 tons a year ago, and domestic shipments of 158,863 tons as against 161,123 tons.

Coated paper output in August was 2,121 tons as compared with 2,100 tons a year ago. Shipments for the month were 2,294 tons this year and 1,938 tons in 1957. For the first eight months, coated paper production totalled 19,809 tons and shipments 20,134 tons. For the same period last year production was 19,767 tons and shipments were 19,577 tons.

Newsprint production in September amounted to 490,784 tons, an increase of 4,194 tons or .9 per cent over September 1957. There was an additional working day this month and production per day averaged 19,431 tons, a decrease of 3.3 per cent from the daily average in September 1957. Production rate in September was 82.3 per cent of 1958 rated capacity versus 82.2 per cent last month. In September 1957 it was 91.1 per cent of 1957 rated capacity.

Israeli Paper Mill Gets U.S. Bank Loan

A loan of $3 million to American Israeli Paper Mills Ltd. has been made by the Export-Import Bank.

The loan will assist the company in a $10,300,000 expansion program. The funds will help finance purchases of pulp and paper manufacturing equipment in the United States. The company will construct a pulp mill and will enlarge its present paper-making facilities. This company is the largest producer in Israel and makes printing, writing, wrapping and bag papers. It plans to add tissue and paperboard.

Dr. Walter Roehr

K-C Appoints Dr. Roehr Sr. Associate

Kimberly-Clark Corp. has announced the establishment of new scientific positions in research and development and appointment of the first senior research associate under the new program.

Dr. Walter Roehr, a recognized expert in the graphic arts field, is the new senior research associate.

Dr. Roehr, a graduate of DePauw and of Washington University from which he received his master's and doctor's degrees, has been associated with Kimberly-Clark since 1934. He has contributed to the development of two paper testing instruments now standard in the paper industry. One is the base sheet formation tester now marketed as the Thwing Formation Tester. The other is the Rotary Rupture and Pick Tester, recognized by authorities in this field as one of the best instruments for measuring pick and rupture characteristics of paper. He has played the major role in development of routine control test procedures for letterpress and rotogravure printing used in Kimberly-Clark.

Miller Scott Personnel Manager

Scott Paper Co. has announced the appointment of Richard B. Miller to the position of corporate staff personnel manager.

Mr. Miller joined Scott in 1950 as a consumers representative in production at Chester, Pa. The following year he joined the staff personnel group and in the subsequent years has assumed increased responsibility in the areas of employment and development. Since 1956 he has served as manager of corporate employment and college relations.

Crabtree Scholarship Awarded

The scholarship committee of the University of New Brunswick announced recently its selection of Jerrie Hugh Fowler, Boiestown, N. B., and Edward H. Smith, Fredericton, N. B., as co-recipients this year of the Harold Crabtree Memorial Scholarship valued at $500 each.

This scholarship was established by Fraser Companies, Ltd., at the University of New Brunswick in memory of the late Harold Crabtree, C.B.E., who was chairman of the company's Board of Directors from 1933 until his death in February 1956. The first of these scholarships was awarded in 1956.

Rodney N. Leech

Leech Appointed to Whiting-Plover Sales Post

Whiting-Plover Paper Co., Stevens Point, (Wis.) has appointed Rodney N. Leech general sales manager, a newly-created position. Mr. Leech, a nine-year veteran of Whiting-Plover's sales department, will supervise distribution of the company's products through its national sales force and its network of 130 paper distributors. He will also be responsible for all other elements of the firm's total marketing program, including advertising, sales promotion and publicity.

During his career with the Stevens Point fine writing paper manufacturer, Mr. Leech has served as sales representative in various regions throughout the country. In addition, he has been a member of the company's advertising and sales promotion planning committee.

Prior to joining Whiting-Plover, he held sales positions in the photoengraving field.

Robert C. Haynie

Champion Establishes New Div.

The Champion Paper and Fibre Co. announced the establishment of a South American Division as one of the firm's separate operating divisions and the appointment of Robert C. Haynie as vice president and general manager of the new division.

This move has been made, because the pulp mill in Brazil is now entering "the most critical phases of construction and equipment installation leading to production startup."

Mr. Haynie, who will retain his position as vice president in charge of planning for the company, will reside in Sao Paulo, Brazil, until plans are completed for putting the mill into production and an operating organization is established.

M. C. Walsh continues as president of Panamericana Textil, S. A., the Brazilian company formed to erect the new mill, which is to be that country's first completely integrated bleached kraft pulping plant.

During Mr. Haynie's absence from Hamilton, Thomas D. Morris will take over his duties in addition to his own as director, management planning.

Hennepin Names Rausch VP.

Cyri Rausch, resident manager of the Hennepin Paper Company, Little Falls, Minn., has been named vice president of the company in charge of manufacturing and elected to the board of directors. Mr. Rausch's appointment comes as a result of his work in supervising the company's three-year improvement and expansion program.

Mr. Rausch joined the mill in 1944 and became resident manager of the paper mill in February, 1955. During that period he has participated in all manufacturing departments of the groundwood pulp and paper mills.

Arthur Thurn

Thurn Supervisor at Champion

The promotion of Arthur Thurn to supervisor of the controls development unit in the process controls department was recently announced at the Ohio Division of The Champion Paper and Fibre Co. Previously he was supervisor of the wet end control department.

A native of Wishek, North Dakota, Mr. Thurn has been with Champion for eighteen years. He joined Champion in 1936 as an analyst in the company's chemical laboratory. In 1940 he was promoted to testing supervisor at the company's Sandersville, Ga., clay processing plant, returning to the Ohio Division in 1942 to become wet end control supervisor.

National Gypsum Promotes Hank

Leonard L. Hank has been promoted to vice president of operations for National Gypsum Co., N. Y.

Mr. Hank will be in charge of National Gypsum's 38 plants, the company's mines and quarries and its purchasing, transportation, engineering and plant industrial relations divisions.

Until his promotion, which is effective immediately, Mr. Hank has been vice president in charge of manufacturing. He succeeds the late Wells F. Anderson.

Mr. Hank joined National Gypsum in 1946 as manager of the company's Kalamazoo Paper Plant. In 1950 he was promoted to production manager and brought to the company's headquarters in Buffalo. In 1954 he was elevated to general production manager for the company's gypsum, paper and insulation board plants. He was named manufacturing vice president in 1956.

Clabaugh Retires Successors Named

Retirement of John M. Clabaugh as paper mill superintendent on November 1 and appointment of his successors in a new organizational arrangement were announced by John A. Luke, manager of the Fine Papers Division of West Virginia Pulp and Paper Co. Mr. Clabaugh, who has been with the company for almost 50 years, has been superintendent of the seven-machine paper mill at Luke since 1947.

Contemplating the installation of two new larger machines as a major part of the mill's current expansion program, the paper mill has been divided into upper and lower mills, each of which will be headed by a superintendent. Heading the upper mill, which includes Nos. 6 and 7 paper machines as well as the two machines, Nos. 8 and 9, will be Roy P. Webber, II, present assistant superintendent of the paper mill at Luke. Heading the lower mill, which includes paper machines Nos. 1, 2, 3, 4 and 5, will be John L. Olewine.

Armstrong Superintendent At St. Regis, Fla.

Francis Armstrong has been named bleach plant superintendent of St. Regis Paper Co., Pensacola, Fla. Mill. He takes the post left vacant by the recent promotion of Lewis White to the position of assistant superintendent, No. 1 Pulp Mill.

A chemical engineer. Armstrong has been in Kraft Engineering since he joined the company in 1956. He will report directly to Mr. White.

He received a B.S. degree in chemical engineering from the University of Colorado.

Figures of the Week

PAPER PRODUCTION RATIO REPORT—American Paper & Pulp Assn. Figures

(Production as per cent of normal capacity)

COMPARATIVE WEEKLY SUMMARIES

	Sept. 13	Sept. 20	Sept. 27	Oct. 4	Oct. 11
1958	91.5	91.9	92.8	90.2r	91.7
	Sept. 14	Sept. 21	Sept. 28	Oct. 5	Oct. 12
1957	91.5	89.9	91.3	92.7	91.0

r Revised.

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1958	86.9	89.5	89.5	88.1	86.4‡	86.2‡	76.0‡	89.8‡	86.7‡	—	—	—	—
1957	94.2	97.0	97.1	94.0	94.6	93.3	75.6	90.7	86.0	93.0	90.7	81.5	90.9

‡ Preliminary.

COMPARATIVE YEARLY SUMMARIES

	1951	1952	1953	1954	1955	1956	1957	1958
Year to Date	99.8	90.4	93.2	91.5	94.9	98.4	91.1	85.9
Year Average	98.0	88.6	92.3	91.6	94.0	97.9	90.9	

All of the above data is based on tonnage reported to American Paper and Pulp Association, Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available.

PAPERBOARD OPERATING RATIOS†—National Paperboard Assn. Figures

COMPARATIVE WEEKLY SUMMARIES

	Sept. 13	Sept. 20	Sept. 27	Oct. 4	Oct. 11
1958	97	95	94	95	95
	Sept. 14	Sept. 21	Sept. 28	Oct. 5	Oct. 12
1957	98	96	99	97	97

COMPARATIVE MONTHLY SUMMARIES

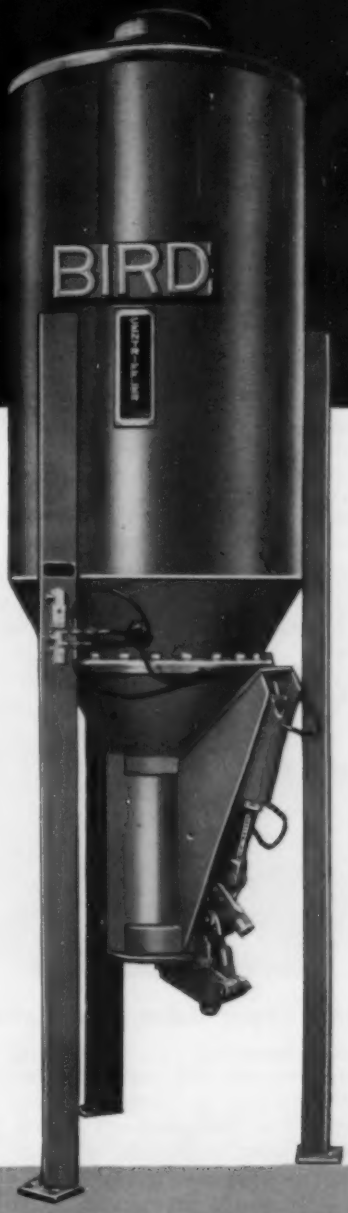
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1958	80	86	88	84	84	86	76	93	90	—	—	—	—
1957	91	94	94	92	93	91	72	94	91	97	92	79	90

† *Percents of operation based on "Inch-Hours" reported on a 6-day basis.*

SUMMARY OF PAPERBOARD STATISTICS—National Paperboard Assn. Figures

ITEM	THIS WEEK ENDING Oct. 11, 1958	LAST WEEK ENDING Oct. 4, 1958	CUMULATIVE TO DATE Jan. 1 to Oct. 11, 1958
% Activity	95%	95%	86%
TOTAL	308,795	308,845	10,829,349
Liner	104,683	108,649	3,593,666
Corrugating Material	49,377	47,954	1,633,562
Chip & Filler Board	4,390	4,459	194,356
Total Containerboard	158,450	161,062	5,421,584
Folding	57,441	54,837	2,086,773
Set-Up	12,596	13,855	434,512
Special Food Board	26,388	28,538	1,019,890
Other	53,920	50,563	1,866,590
Total Boxboard	150,345	147,783	5,407,765
TOTAL ORDERS			
Received	296,458	373,237	
Unfilled End of Week	466,878	482,780	

GOOD RIDDANCE TO BAD RUBBISH



Junk and heavy dirt in the stock as it leaves the pulpers gets no chance to damage expensive equipment or get broken up into fine dirt — not with Bird Centrifflers standing guard.

The Centriffler delivers up to 1500 gallons of cleaned stock per minute. It has no moving parts and takes up only a fraction of the space required by the old, cumbersome riffler.

The stock may be delivered to the Centriffler by low head pump or by gravity feed. High Pressure (50 lb.) discharge can be provided so that stock can be delivered to regular drop-in-pressure dirt removers, like Cycleans or Dirtecs, without pumping.

BIRD MACHINE COMPANY

South Walpole, Massachusetts

Regional Offices:
EVANSTON, ILLINOIS • PORTLAND, OREGON • ATLANTA, GEORGIA

Canadian Manufacturers of Bird Machinery
CANADIAN INGERSOLL-RAND CO., Limited, Montreal

BIRD CENTRIFFLER

This Bird Centriffler is equipped with an automatic dumping device. Quick acting manual dumping mechanism is also available.

Portable Pneumatic Conveyor for Handling Bulk Material

Development of a trailer mounted, portable, combination positive and negative pressure pneumatic handling system has been announced by Sprout, Waldron & Co., Inc., 130 Logan St., Muncy, Pa. The new unit, part of the company's line of Pneu-Pac equipment, is said to have unlimited possibilities for in-plant handling of granular free-flowing materials.

One of the advantages claimed for the equipment is complete portability. The assembly is mounted on a four wheel trailer and is designed for complete maneuverability. Overall height of the system is several inches under 8 feet, making it practical for use in almost any type plant. In spite of compact size, the unit includes a 14 by 10 rotary vane airlock feeder which insures large capacity on most types of free-flowing material. The design includes an in-line filter with easily removable filter bag.

Capacity of the unit depends entirely on the nature and weight of the material being handled and the combined vertical and horizontal travel distance. Specific capacities for handling a variety of dry, free flowing materials are available from the manufacturer.

Waste Paper Baler Is Mounted on Casters

Lake Engineering Co., 312 Gostlin Street, Hammond, Ind., announces the development of a portable baler. Mounted on roller-bearing casters, there is nothing to lubricate, or adjust in the baler. The press is all hydraulic and is completely self-contained.

Horizontal design permits the operator to charge materials into the oversized hopper from any direction. Materials can also be fed into the press by a conveyor or through a chute from the floors above. One control lever permits effortless operation. Move the control lever forward, the ram moves forward; move the lever back, the ram moves in reverse. The complete stroke cycle requires just 16 seconds. Bales are tied semi-automatically with heavy duty twine. Finished bales are ejected automatically.

A bale of mixed paper made in the new press will weigh approximately 320 lbs.; a bale of corrugated 165 lbs. The new baler is 110 inches in length, 34 inches in width and 30 inches high; weight is 1,520 lbs.

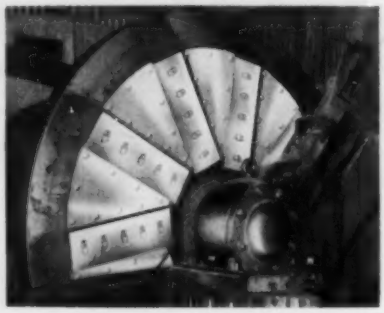
New Thickening Method Reduces Refiner H.P. Need

A new method of thickening semi-chemical (NSSC) pulp by means of vibrating screens has resulted in lower than normal horsepower requirements for the refiners at Union Bag-Camp Paper Corporation's vast mill at Savannah, Ga.

At this mill the unwashed, unrefined NSSC pulp is blown from the digesters and pumped from the blow tanks to a battery of six Link-Belt liquid vibrating screens, which reduce the moisture content from 94 to 75 per cent .

At this very high consistency the pulp is then fed to the refiners, on the floor below, where the softened chips in the pulp are broken up mechanically. Each refiner has a capacity of 50 tons of finished pulp daily.

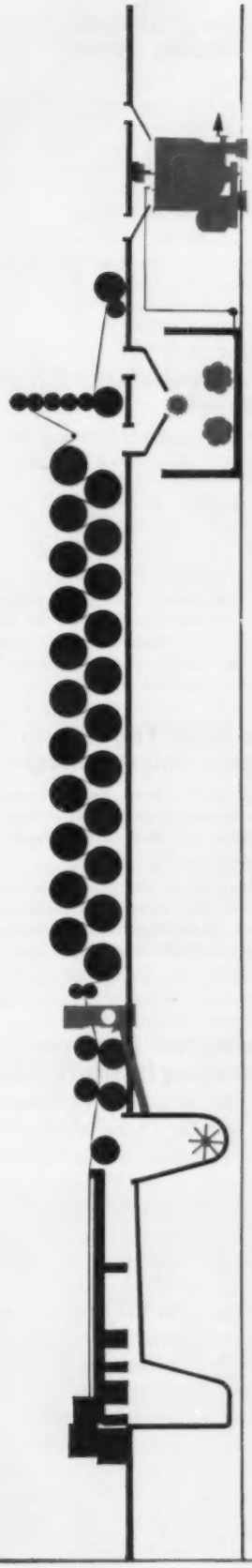
It is reported that this drainage is accomplished in about two feet of travel instead of by dragging the pulp 10 or 12 feet, as is normally the practice, and a more uniform dewatering has resulted.



More Durable Knives and Wear Plates

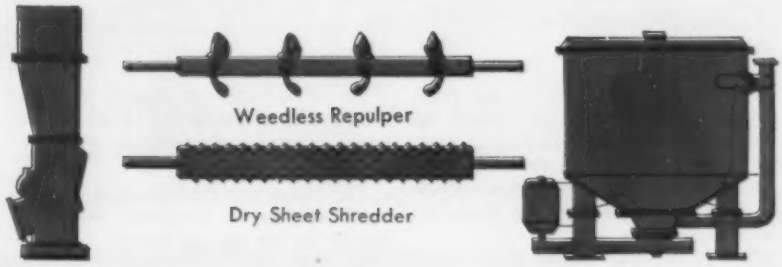
The Ohio Knife Co. of Cincinnati, Ohio is making hardened "O-KNI-Co" wear plates for chippers to be used in conjunction with hardened "O-KNI-Co" chipper knives. Now in operation in many chipping operations, the combination is reported to assure continuous production of uniform chips. The combination of the wear plates and chipper knives is available now on all chippers made by the D. J. Murray Manufacturing Co.

The Ohio Knife Co. makes their knives of hi-carbon, hi-chrome steel, hardened and tempered to resist chipping, cracking and shelling. They are said to stay sharp many times longer than ordinary knives. Wear plates have a 3/16 inch hardened surface of ball bearing steel clad to a tough steel backing material. This combination eliminates breakage, increases the service life. The manufacturer states they have lasted four times as long as competitive plates, or up to two years without being removed.



IMPCO OFFERS COMPLETE *BROKE PULPING* AT ALL POSITIONS ON YOUR PAPER MACHINE

Over two thousand Impco Agitators for every conceivable mill requirement, both before and after the paper machine, are in successful operation. As a pioneer in the designing of such equipment, Impco also regularly builds broke handling devices for various positions under the paper machine. Consequently, such units as Couch Pit Agitators, Sheet and Roped Press Broke Shredders, Dry Sheet Shredders, Solvo Pulpers and Defiberers have been developed. As a result of this mill proven experience, Impco can provide you with either a complete broke handling system or individual components.



Press Broke Shredder

Solvo Pulper

IMPCO® IMPROVED MACHINERY INC.
NASHUA, NEW HAMPSHIRE

In Canada, Sherbrooke Machineries Limited, Sherbrooke, Quebec

New Roll Edge Protector Boasts Built-in Cushion

Molded pulp middle maintains 40 per cent resiliency under 6000 lb. per sq. inch impact, and springs back into shape.

Spring-Pak roll edge protector is made of molded corrugated, with solid, pulp-filled flutes, laminated to rugged kraft backing. It is pre-cut and pre-scored for trim, easy application to the rolls.

While conventional paper roll edge protectors reduce damage caused by bumping, jostling, and chaffing, during transit, they fail to provide shock protection when a paper roll is dropped on the hard floor of a shipping docks or warehouses.

A new roll edge protector made by Pillo-Pac of New England, Inc., Nashua, N. H., incorporates a corrugated-like molded pulp middle section which is reported to provide both physical protection and cushioning resilience. The flute molded sheet is sandwiched between kraft liners like corrugated, and the product is called Spring-Pak.

A recent load deflection test, conducted by the Engineering Experiment Station, University of New Hampshire, demonstrated that Spring-Pak loses only 60 per cent of its resilience under a 6,000 pounds per square inch impact, then it springs right back to normal. In other words, it seems the product has a unique capacity to absorb repeated shocks and pressures far in excess of limits normally encountered in shipment.

The laboratory findings of the engineers are amply confirmed where it counts: on the proving ground of practical daily use, say Pillo-Pac spokesmen. Rolls of fine paper protected with Spring-Pak take normal handling easily in stride. Paper makers and distributors also report that even the blows and buffets of outrageous manhandling seldom penetrate the tough, springy resilience of this new edge protector which absorbs brutal punishment as a sponge absorbs water. Springy-pulp-filled flutes of crush resistant Spring-Pak cushion the rolls against impact and shock, retaining full protective usefulness after repeated blows. The product is reported to approximate the protective resilience of sponge rubber.

Ludlow Appoints Purchasing Head

Albert J. Thiel, president of Ludlow Papers, Inc., has announced that effective September 8, 1958, George F. Bryant has been appointed director of purchasing for Ludlow Papers, Inc. Mr. Bryant will be headquartered at the Needham Heights office.

Prior to his new assignment, Mr. Bryant was plant manager of Ludlow's Netcong, N. J. plant. Previous to this he had served in various technical and production capacities for Ludlow.

Two Promoted at Millcraft

Directors of the Millcraft Paper Co. yesterday announced the election of John W. Keil, formerly vice president, as president, and Stuart B. McKinney, previously secretary, as vice president.

Mr. Keil has been with the firm since 1938 and McKinney since 1945.

The company was established here in 1921 by the late Harold W. Keil and has branch offices and warehouses in Akron, Toledo, Jamestown, N. Y., and Ft. Wayne, Ind.

Ben-Mont Tag & Seal Names Sales Manager

Arthur F. Allen has been appointed sales manager of the new Tag & Seal Division of Ben-Mont Papers, Inc., Bennington, Vt.

Mr. Allen, formerly general manager of the Allen Craft Greetings Division of Michigan Lithographing Co., Grand Rapids, Mich., has spent nearly 20 years in the greeting publishing field.

Postweiler Receives Packaging Institute Award

N. W. Postweiler of Riegel Paper Co., received a hand illuminated scroll by the nationally famous engrosser Gustav Lange at the Packaging Institute's 20th Annual National Packaging Forum in Chicago on October 14th.

Mr. Postweiler was cited for his "outstanding contributions to the 19th Annual Forum in New York in 1957 and the 20th Annual Forum in Chicago."

Under Mr. Postweiler's guidance as program chairman, the Packaging Institute's emphasis on the purely technical aspects of packaging has been broadened to encompass the merchandising and marketing aspects of this mushrooming $14 billion dollar industry.

H-W PLASTIC REFRACTORIES

make durable, efficient and economical

BOILER FURNACE SETTINGS

Harbison-Walker Plastic Refractories comprise all the kinds best adapted for the many different operating conditions. They form solid, joint-free linings including arches and bridge walls having physical properties closely similar to the corresponding classes of refractory brick.

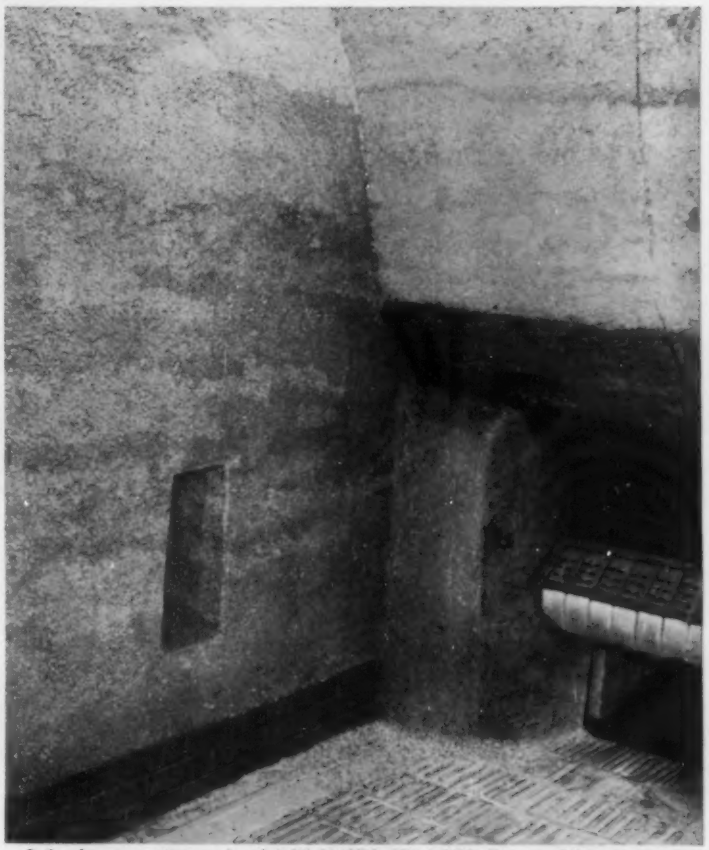
H-W STANDARD PLASTIC FIRE BRICK is a dense-burning, uniform refractory made of the same clean, high purity flint clay of hard burn and plastic bond clay as are used in the best high duty fireclay brick.

H-W SUPER PLASTIC FIRE BRICK possesses the properties of super-duty fireclay refractories and is used economically in applications where temperatures exceed the limits for **H-W STANDARD PLASTIC FIRE BRICK.**

H-W SUPER PLASTIC CS takes a cold-set after drying in the low temperature range. This added strength prior to the development of the usual strong ceramic set is especially desirable for certain furnace installations.

APACHE PLASTIC FIRE BRICK is the high-alumina plastic refractory which withstands the highest temperatures to best advantage and is most resistant to chemical attack by corrosive slags.

Harbison-Walker Monolithic Refractories are used with excellent results for lining sulphur burners of various designs.



Boiler furnace setting made of H-W PLASTIC FIRE BRICK. This monolithic construction is economical to build and gives excellent service under severe working conditions.

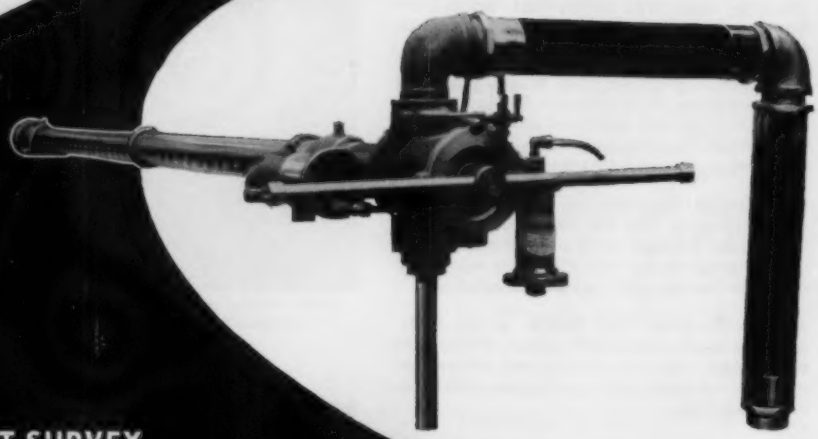
Write for complete information about these leading Harbison-Walker plastic fire brick.

HARBISON-WALKER REFRACTORIES COMPANY AND SUBSIDIARIES

General Offices: Pittsburgh 22, Pennsylvania

50% to 90% SAVINGS
IN WATER USAGE!

This is the rule, not the exception, with mills using BROUGHTON oscillating fresh water and whitewater showers



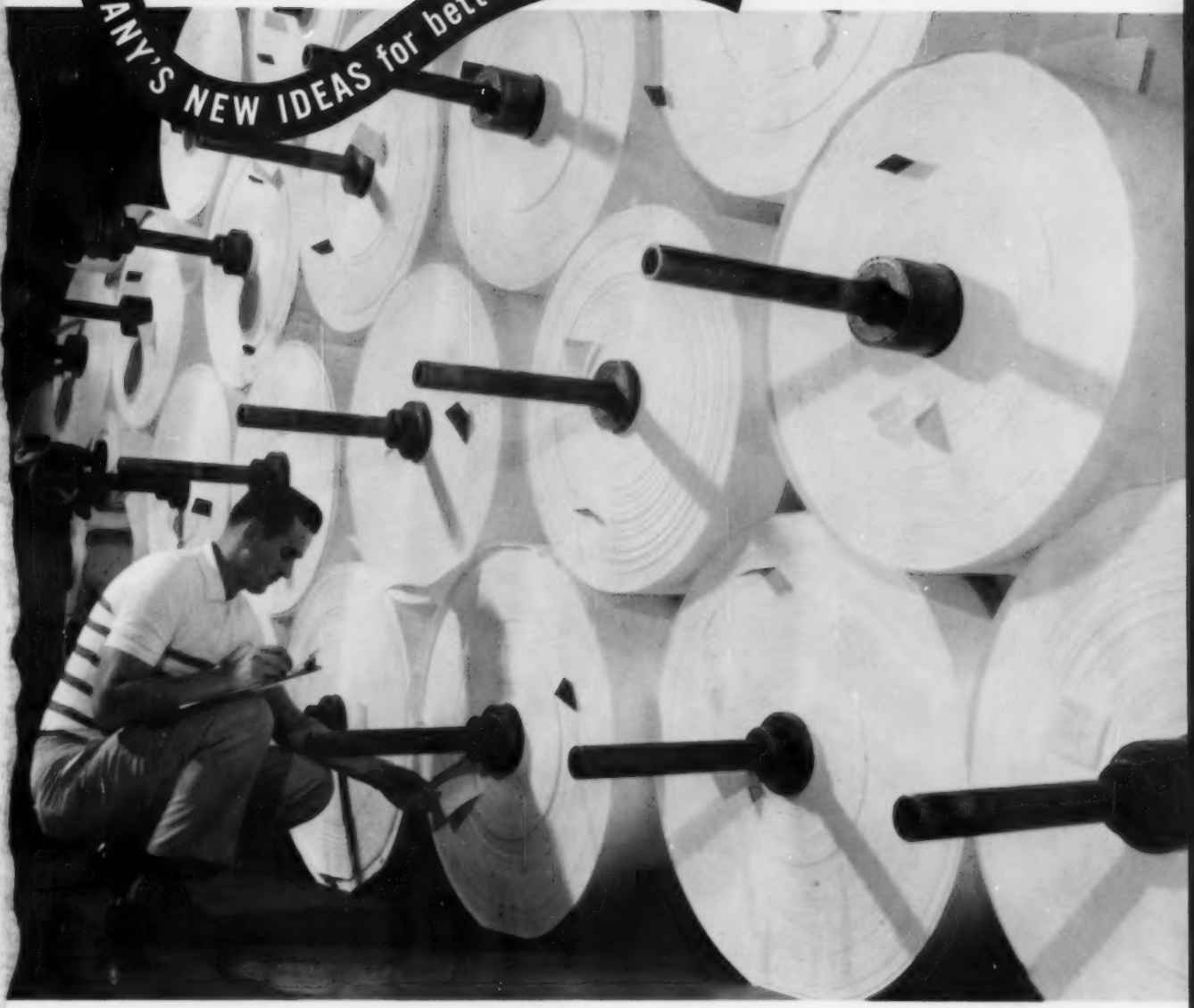
For a
THOROUGH, EXPERT SURVEY
of your shower needs,
without obligation,
write or phone - today.

BROUGHTON
SYSTEMS FOR PAPER MACHINES

A.E.BROUGHTON & COMPANY

GLENS FALLS, NEW YORK CABLE ADDRESS: BROUGHTCO TEL. 2-6541

ALBANY'S NEW IDEAS for better papermaking



THE BIG PICTURE . . .

MORE SALEABLE TONS PER DAY

Today's market stresses quality and costs. So more than ever, paper mills think in terms of more saleable tons per day.

In 1952, Albany Felt Company introduced this yardstick as the most effective measurement of felt efficiency. For at Albany Felt Company we always design felts to last as long as possible; but our major objective is to produce felts that will help you achieve the big picture . . . fast, trouble-free performance, consistently high average production of quality paper or board for more saleable tons per day.

For detailed case history information, write us or consult with your Albany Felt Company sales engineer.

ALBANY FELT COMPANY

"THE WORLD'S LARGEST MANUFACTURER OF PAPER MACHINE FELTS"

MAIN OFFICE & PLANT, ALBANY, N.Y. OTHER PLANTS: HOOSICK FALLS, N.Y.; N. MONMOUTH, ME.; ST. STEPHEN, S.C.; COWANSVILLE, P.Q.

Stock cleaning equipment

Specifically designed for your needs

Each VORJECT, VORVAC or VORTRAP system is custom engineered to fit requirements for deaeration and cleaning of your specific stock.

You can benefit from the experience of Nichols, the original designers and suppliers of centrifugal stock cleaners.

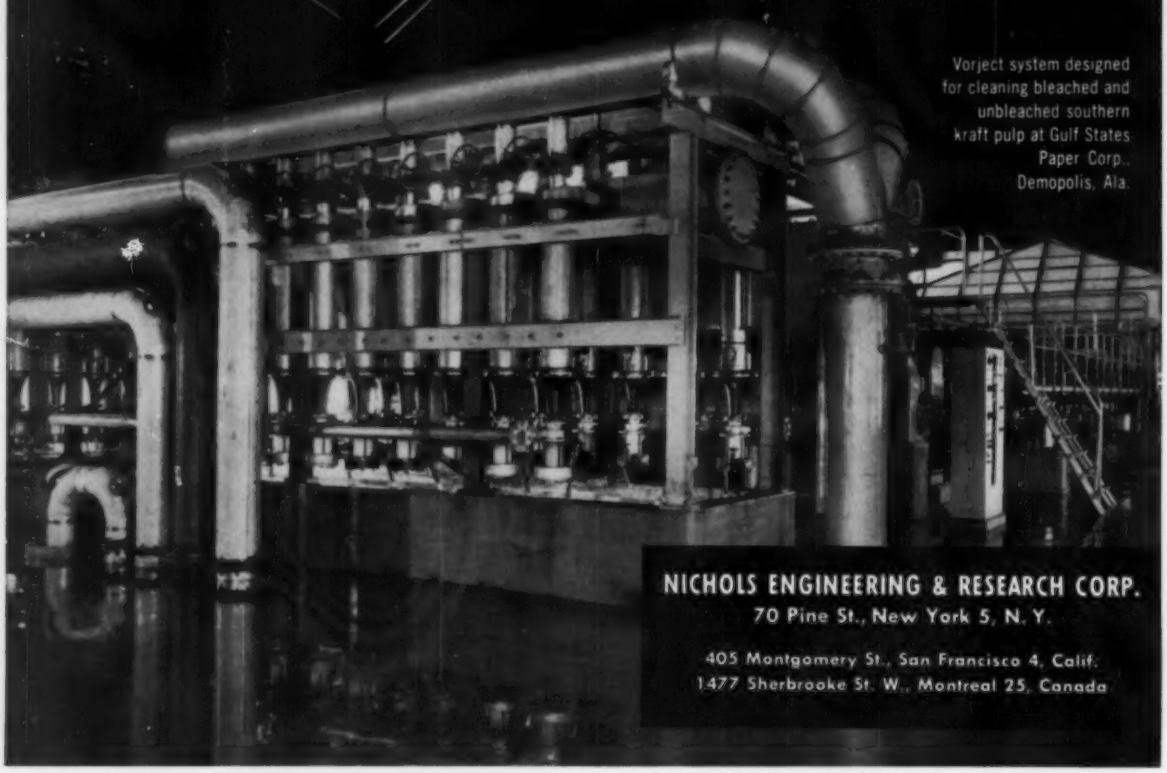
WRITE FOR BULLETIN No. 131

NICHOLS FREEMAN

VORJECT®

Trade Mark

Cleaner



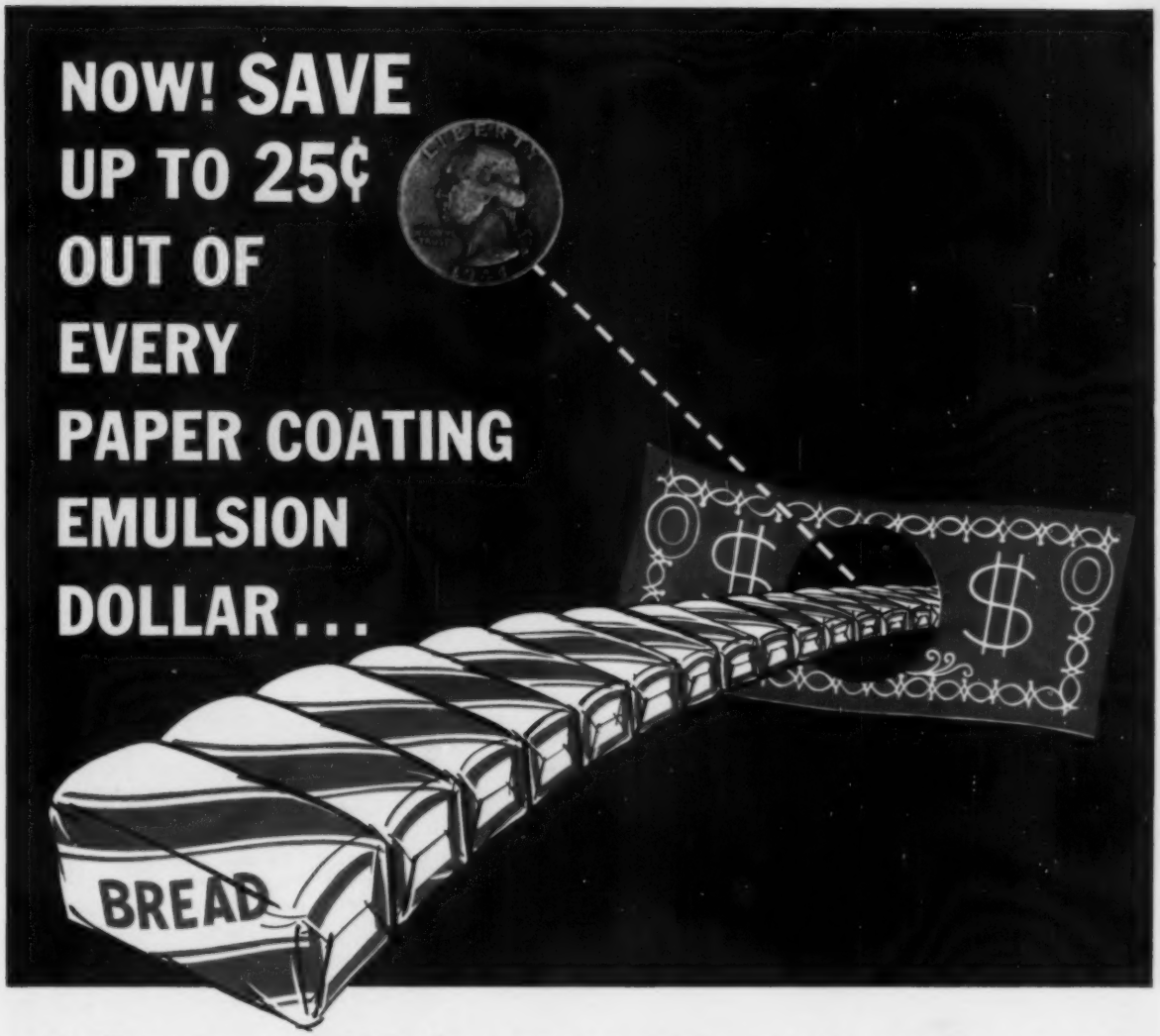
Vorject system designed for cleaning bleached and unbleached southern kraft pulp at Gulf States Paper Corp., Demopolis, Ala.

NICHOLS ENGINEERING & RESEARCH CORP.

70 Pine St., New York 5, N. Y.

405 Montgomery St., San Francisco 4, Calif.

1477 Sherbrooke St. W., Montreal 25, Canada



with Dewey and Almy's
New, *ODOR-FREE* **EVERFLEX MC-300**

MICRO-PARTICLE PAPER COATING EMULSION

It's odor-free, grease-resistant, non-yellowing, highly flexible . . . *and up to twenty-five percent less expensive* than other low-odor polymers used for binding food wrap paper coatings. And that's only part of the good news about EVERFLEX MC-300 Micro-Particle Copolymer Emulsion.

Its fine particle size means better pigment binding power. It has higher color stability. Pick, crocking and water resistance are exceptional. And reproduction is excellent in either letterpress or offset printing.

For finer products and bigger profits *get full details on* EVERFLEX *MC-300 and other members of the* DAREX *family of outstanding paper coating emulsions. Write today for free informative brochure.*

W.R. GRACE & CO.
DEWEY AND ALMY CHEMICAL DIVISION

62 Whittemore Ave., Cambridge 40, Mass. • 100 W. Monroe St., Chicago 3, Ill. • 225 Allwood Rd., Box 361, Clifton, N. J. • *West Coast:* 2140 Davis St., San Leandro, Calif.

Sweden's First Kraft Mill in 25 Years Starts Up This Fall

★ Monsteras

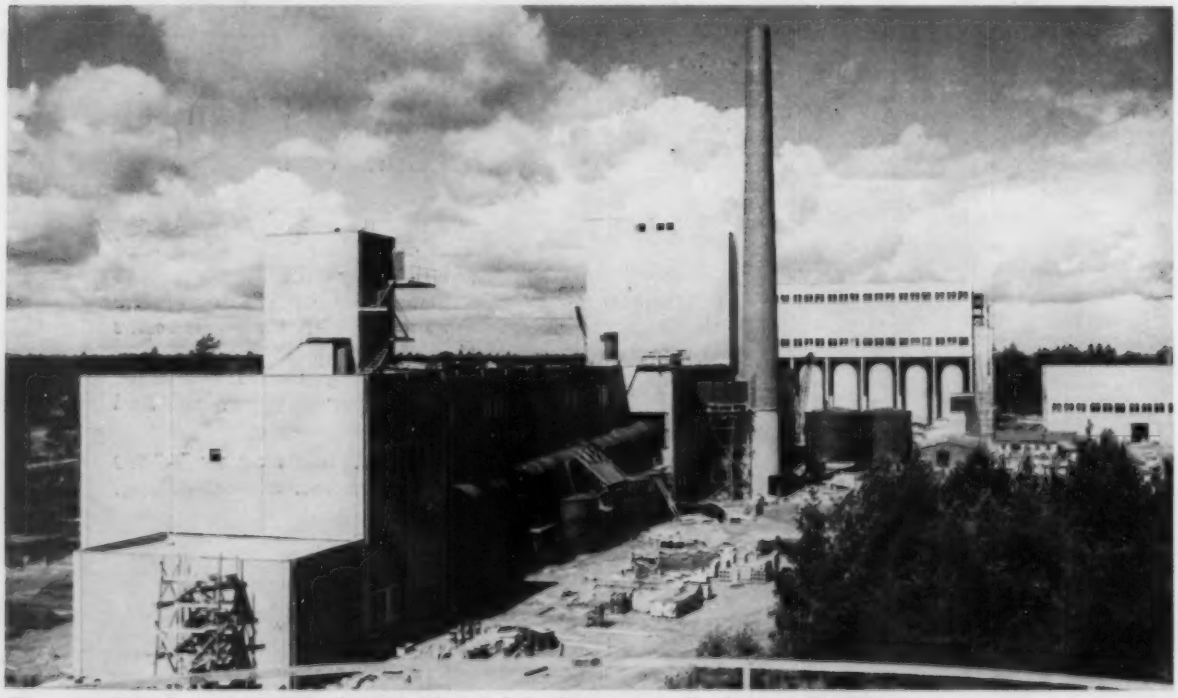
The Skogsagarnas Mill at Monsteras is a forest owners co-operative venture. Plant design which has many unusual and interesting features is described as seen on the spot by a member of our staff.

Eben M. Whitcomb
Editor-in-Europe
Paper Trade Journal

Skogsägarnas Cellulosa Aktiebolag was founded in 1952 by the National Federation of Swedish Forest Owners Associations. Dr. Gunnar Hedlund, the association chairman, is also chairman of Skogsägarnas Cellulosa A/B. Two thirds of the mill cost was subscribed to by the forest owners' associations and the private forest owning farmers. The development also had the support of the Federation of Swedish Farmers Associations and the Swedish Farmers Union.

Scheduled for production this fall, initial output will be 75,000 tons a year with an increase to 150,000 tons planned for the near future. The product will be unbleached and semi-bleached kraft sold equally in dry and wet sheet form.

Location of the plant, which will be one of the most modern of its kind, is near Mönsteras in southeastern Sweden. The site was selected as a result of the continuous survey of Swedish forest resources which has been carried on since 1920 by the National Forest Survey. Increasing forest reserves in the south with a maximum surplus in Mönsteras, and a limited wood consumption in the area



The new pulp mill, located in Southern Sweden, includes features possible because of mild winters.

Woodyard includes trolley crane (right), log decks, conveyors and two Cambio barkers.

all indicated the present location. Solution of the waste disposal problem was by pumping waste three miles out into the Baltic.

Wood Handling

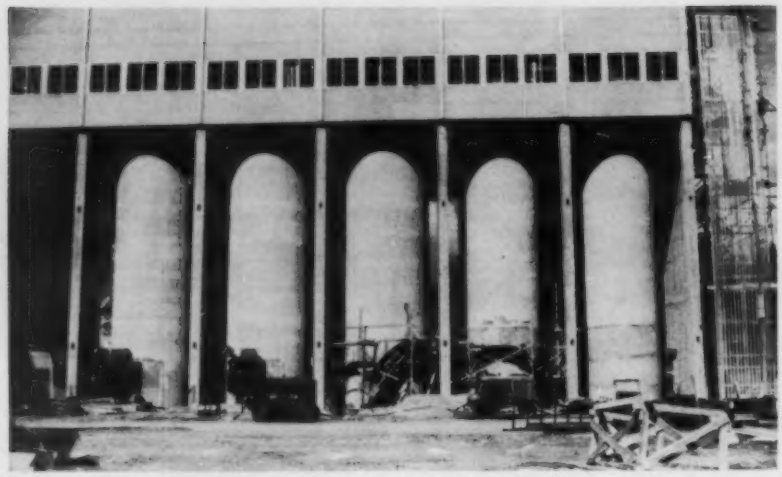
There is a growing tendency in Sweden for wood to be barked in the woods and it is expected that a large portion of the wood received at the mill will have been so barked. Eighty per cent of the wood will be received by truck, the balance being rafted from the nearby Mälardalen district. Standard length is two meters (6.56 feet) but a substantial amount is received in 4-meter (13.2-foot) lengths. Wood is unloaded from trucks with wire slings by an overhead trolley crane. This traveling crane also feeds directly into the decking area ahead of two Cambio barkers. Normally the mill will operate on a two-week inventory of wood, all of which may be stored under this overhead service area. If at any time there develops a surplus, a mobile grapple crane will store the wood in a nearby area.

It is expected that two men will be able to operate the woodyard and barking area. This is made possible by an automatic wood handling and feeding device which is the first of its kind in operation. Logs unloaded by the crane are positioned and fed automatically either to one of the two Cambio barkers or, if already barked, directly to a flume which carries the logs to the chipper building. Waste from this process is carried on an inclined belt conveyor to a storage hopper where trucks can be loaded by gravity. The waste will be sold to local industries as fuel. Each Cambio barker is capable of handling logs at speeds of 140 feet per minute. Oversize logs are automatically rejected.

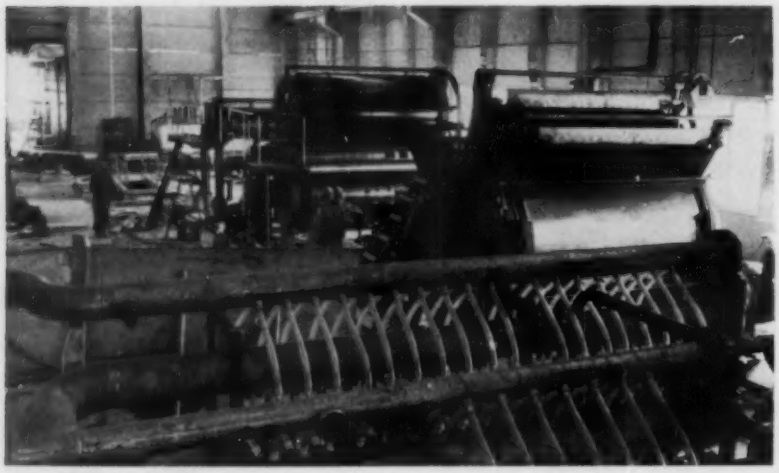
A 10-knife chipper with 550 h.p. motor which handles logs to 20-inch diameter was supplied by Karlstads Mekaniska Werkstad (K. M. W.). It is located in a separate building which is lined with acoustic brick. Logs are fed to the chipper by an inclined combination live star roll conveyor and dewatering drag line supplied by Nordströms Linbamer. The chipper operator is lo-

Pulping building contains digesters, washers, screens and at the right storage silos and bleaching towers.

Recovery boiler house (right) houses triple effect evaporator and Combustion Engineering furnace.



Pulp storage silos and bleaching towers are enclosed only at the top because of mild winters here.



Kamyr wet machine during installation. Batteries of Centricleaners in the foreground.

Lime kiln has sludge dryer at entrance end and lime cooler at exit.

cated in a sound-resistant control cubicle. He is able to observe the flume and the chip screens which are located in a nearby open air building and to control remotely both of these operations. There are four flat horizontal oscillating chip screens and a rechipper in the screen building. These were also supplied by K. M. W.

Accepted chips are carried on an inclined belt conveyor, supplied by Nordströms Linbamer, to one of two chip silos, of slip cast concrete construction, each of 1800 cubic meters capacity. It is expected that two-shift, five-day operation of the woodyard will permit seven-day mill operation without interruption.

Closed Circuit TV Employed

Removal of chips from either woodyard storage silo to either of two pulp mill storage silos is remotely controlled by the digester operator and monitored by closed circuit television. This same modern approach is used in supervising the lime sludge washer, and the lime kiln feed.

The use of two silos allows for separate use or blending of different wood species. For the present, pine will be used almost exclusively.

Pulping

After the silos, the chips are measured by a cell wheel and carried by a bucket conveyor to the low pressure chip feeder. The conveyors, feeders and low pressure steaming vessels and the Kamyr continuous digesters are of conventional design. They are built by K. M. W. and designed by Kamyr. The newly developed cold blowing process is being used, and it is felt will result in an increase in yield and quality. There are two complete cooking installations, each with capacity of five tons per hour with a cooking time of four hours. Both the digesters and washing operations are controlled from a common control center overlooking the work area which is operated by two men.

Outside Construction

Only the tops of the pulp storage, and bleaching tanks, which are all made of concrete and tile lined, are enclosed. The lower parts are exposed. This is a departure from the usual arrangement, but is made possible by the relatively mild winters in the area. After the digester blow tank, and preceding the first washing stage are Jonsson screens for removal of knots. Washing is done by two Kamyr vacuum (barometric leg) washers of a new design with a screw press in between. The knots are disintegrated and washed together with the pulp.

Screening

Screening is done in two parallel rotary Biffar screens, one for each digester line. Accepted stock is thickened in Sund-Skonviks deckers and stored in silos at 6-8 per cent consistency . Rejects from the primary screens are rescreened in Ahlfors screens. Stock accepted from them is returned to the Biffar screens; rejects are sent to Supratonater refiners of German construction and passed through Bauer Centricleaners in two stages. This stock from there may be returned to the system or stored separately for making a different grade.

Pulp at the bottom of the silos is diluted with mining nozzles and can be pumped to the bleaching towers or to the machine room. Current plans are for about one half of the production to be sold unbleached. Bleaching is for the present performed in four stages with chlorine, caustic extraction and two stages of calcium-base hypochlorite. Provision has been made for future addition of chlorine dioxide stages. All towers are of the upward flow type and together with the washers are supplied by Kamyr. The bleach liquor is made continuously in a plant designed and delivered by Celleco, Stockholm. Chlorine input is controlled by a redoxypotential regulator and is entirely automatic.

Recovery

The evaporator system has only three effects as supplied by Rosenblad. Weak liquor is introduced into No. 3 then combined with strong black liquor and passed to No. 1 and No. 2. Space is left for additional evaporators, but for the present with only half of the pulp production being dried, there is a surplus of steam, and in this arrangement the evaporators act as condensers for the turbine.

Thick black liquor is burned in a recovery furnace designed by Combustion Engineering and fabricated by Svenska Maskimverken. It is equipped with Superior soot blowers. Combustion air is preheated in an economizer and boiler feedwater is also preheated. Flue gases are circulated through an electric precipitator supplied by Svenska Flaktfabriken before entering the chimney. The dissolved smelt is sent to a Dorr causticizing plant of conventional design provided by Hedemora Verkstäder. Lime sludge is burned in a K. M. W. rotary lime kiln with a 65-ton per day capacity. The kiln is provided with a lime sludge dryer at the feed end and a lime cooler at the discharge. Sediment from the waste settling basin will also be burned in this kiln as a part of the pollution reduction program. Burned lime is conveyed with Redler conveyors to the lime hopper which can store about 150 tons.

Salt cake make-up is obtained locally and delivered by truck. It is handled pneumatically to a hopper in which two days supply is maintained.

Pulp Drying

Unbleached or bleached pulp can be dried to 90 per cent or pressed to 45 per cent at the two machines. Before drying, the bleached pulp first passes to a four stage Centricleaner system, and then goes to the machine chest. From here it is controlled (as are all such consistency regulating stations in the plant) by Källe consistency regulators and passed on to a metering headbox. The pulp is then mixed with white water to one per cent consistency and supplied to the machines.

No. 1 machine supplied by K. M. W., has a 28-meter long fourdrinier wire, two suction boxes and two Rotabelts. Each of the latter have hot water enclosed showers to improve water removal. The first press is a suction press; the second a straight press. Between the second and third press are two predryers. The third press is a suction press. All presses use felts.

Final drying on this machine is done with a Svenska Fläktfabriken dryer. It is of a new type in which the web is supported and carried along by a hot air stream as it is dried from 42 per cent to 90 per cent. The pulp sheet is threaded automatically through the dryer by vacuum reversing rolls at the end of each pass.

Bale Handling

The dry pulp sheets are cut continuously on a cutter made by K. M. W. The layboy of the cutter is automatic, and is the first of its type in operation. Sheets from each of the four delivery piles are stacked together, weighed and removed automatically on conveyors to the wrapping station. Bales are wrapped and tied automatically then accumulated on a conveyor for transportation by fork truck to the pulp storage shed. This layboy equipment is supplied by Einer Erikson A/B, Stockholm.

No. 2 Machine

The second machine which produces wet sheets is a conventional Kamyr pulp wet end section. There is a cylinder with three press rolls. The first and second presses are grooved, and are followed by a two cylinder pre-heater and a third smooth press. The web is cut lengthwise with circular saws and crosswise with a regular cutter. Pulp sheets are automatically piled and weighed before pressing, wrapping and strapping. Transportation to pulp storage is by clamp truck and from pulp storage to quayage (about 400 yards) by trailer trains.

Water and Sewage

Water is pumped from the river Em through a concrete pipe line three miles long. It passes through three Passevant micro screens and then is distributed to the mill. Only the boiler feed water is chemically treated and filtered before using.

Waste water from the screening area and drying machines passes through three LT (Leje & Thorne, Stockholm) filters for fiber removal before it is sent to the settling basin. This pond has a diameter of 42 meters and is equipped with revolving scrapers. Condensate from the digester blow tank and from the evaporators is sent through towers where it is treated with warm flue gas in order to remove and destroy mercaptans, etc. The collected waste is then pumped through a submerged wooden stave pipe line about three miles out into the Baltic Sea in order to mix it well with sea water.

Instruments

Instruments for the pulping operations are supplied by Regulator Och Instrument A/B Billman, Stockholm, and are made by Bristol, Elliot & Fisher, Källe. Evaporation, lime burning and causticizing are controlled by instruments from Kent, England supplied by Elektronik Bolaget, Stockholm. Boiler controls and schematic instrument panel are of German design. Pressure, temperature, level and consistency controls are by Källe.

Design, Construction and Building

The design of the mill layout has been done by the company's own people with the help of consultants. These have been:

Architect, Kaleb Sjöden, Stockholm.

Building Construction, Jacobson & Widmark, Lidingö Melking & Co., Stockholm.

Heat Economy, Mellersta Och Nerra Svierges Ängpanneförening, Stockholm.

Electric Distribution, Mellersta Och Nerra Svierges Ängpanneförening, Stockholm.

Water Supply & Waste Water Treatment, Vattenbyggnadsbyrän, Stockholm.

Housing, Svenska Industribyggen A/B, Stockholm.

Harbor, Pump Stations, Roads, Skänska Cementgjuteriet, Mälmo.

Personnel

Gunnar Hedlund, president; E. Martin-Löf, managing director; Carl Hamn, production superintendent; I. Grundh, accountant; O. Linnell, purchasing agent; F. Hedborg, construction director and works manager; C. G. Mikaelsson, mechanical superintendent; L. Hall, chief chemist; P. Lindrees, M. Eriksson, S. Hellman, F. Lindgren, B. Ek, C. E. Mossberg, S. Anderson, T. Soderman, engineers.

Building the skill of experience into

LODDING DOCTORS...

Stanley Przystas. Fourteen years in Lodding's Blade Department has given Stan an understanding of the importance of care and accuracy in all the operations going into a highly finished precision product such as doctors. He is shown here inspecting a blade edge prior to the final pass of the grinder.

The high performance which everyone expects and receives from Lodding Doctors is the result of the care and experience of the team producing them. This is an asset which only comes in specializing in doctors over the years.

During the last ten years, Lodding has made more than 10,000 doctors, 17,000 blade holders and 350,000 blades. Lodding shares this experience with you.

LODDING ENGINEERING CORPORATION
WORCESTER, MASSACHUSETTS

FINEST GIFT WRAPPINGS...

begin with Glidden Zopaque® Titanium Dioxide

Special wrappings that reflect the fine taste of the giver and add extra significance to gift-giving, are those made with Glidden Zopaque Titanium Dioxide. Zopaque imparts maximum opacity—increases the whiteness and brightness of fine paper...enhances its beauty when colored or printed. Readily dispersible, Zopaque is ideal for the formulation of finest paper products.

Write now for complete information about the various grades of Glidden Zopaque Titanium Dioxide specially developed for beater addition and coatings.

QUALITY Glidden PRODUCTS

FINEST PIGMENTS FOR INDUSTRY

The Glidden Company
Chemicals—Pigments—Metals Division
Baltimore 26, Maryland

Integrated Handling and Processing Upgrades Finishing Operations

By combining automatic handling and processing with more efficient paper knives, finishing room production on stock ranging from cockle finish rag to sulphite envelope has been increased 50 per cent and at the same time quality has been improved.

Carl Kihn

Superintendent, Finishing Department
Howard Paper Mills, Inc.
Aetna Division
Dayton, Ohio

Figure 1—New Seybold automatic hydraulic trimmer in Line No. 3.

It is a well-known fact that the finishing room has either intentionally or inadvertently been allowed to lag behind the pace of technological advances set by the rest of the paper industry. Recognizing this fact and comprehending the advantages that finishing operation upgrading could make in product quality, Aetna Paper activated an improvement program in 1956.

Two-Phase Program

These improvements were designed to upgrade two critical phases of finishing room operations **1)** Materials Handling During Processing, and **2)** Cutting and Trimming Methods and Techniques.

Since finishing room operations constitute a major portion of a mill's labor force and materials handling has for years been carried out manually, this was the initial target for the first phase of the improvement program. As a result, new equipment was designed and developed by Aetna in cooperation with material handling and paper equipment manufacturers.

The cutting and trimming methods improvement resolved itself into a progressive program carried out simultaneously with the material handling work. It involved investigations into the problem of improved regrinding and a better understanding of knife make-up and application from the viewpoint of the user. Initial improvements resulted from an improved knife grinding technique

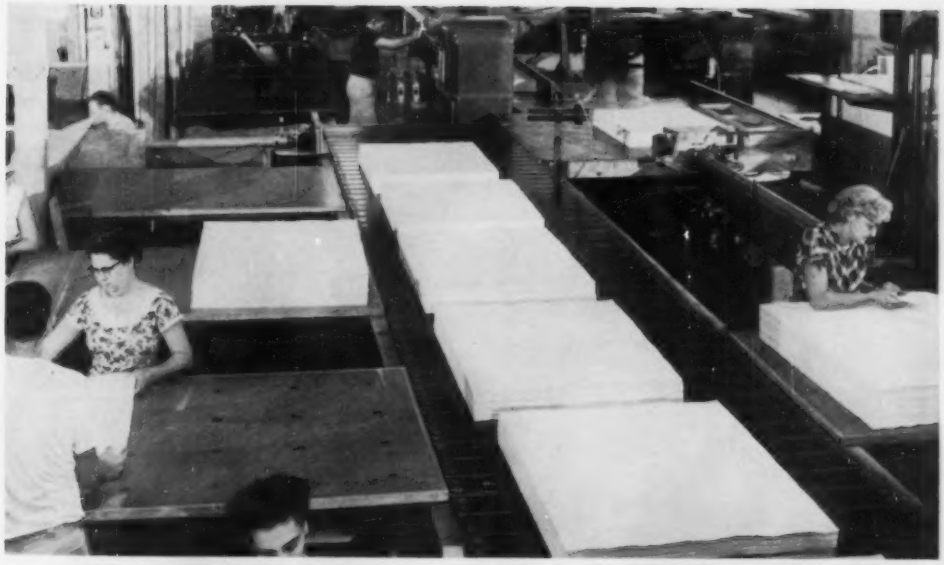


Figure 2 — Overall view of Line No. 3. Note inspection stations and location of conveyor in relation to trimmer.

Figure 3—Discharge end of Line No. 3.

Figure 4 — Overall view of Line No. 2. Note the position of the trimmer.

Figure 5—Discharge end of Line No. 2. Note double-deck gravity conveyor for the carton tops and bottoms.

developed by Simonds Worden White Co., Dayton, followed by a revolutionary new finish (Mirro-Keen) which this company developed for all of their paper knives. Its contributions to the upgrading of production were singularly significant and will be detailed later.

The ultimate goal of the over-all program was to make it possible for the trimmers to operate as close to 100 per cent of the time as possible.

Process Handling Semi-Automated

The equipment upgrading phases were scheduled so as to efficiently integrate sorting, inspection, trimming and packaging. As a result all three finishing room lines have been automated since July 1956. Line 1 handles skid packed paper; Line 2 is used for skid and carton packed paper; Line 3 trims and packages cut sized paper sealed in reams.

Line No. 3 is the most automatic. It includes eight fan and count stations, a slat conveyor, hydraulic automatic spacer, Seybold trimmer, transfer conveyors, plus sealer, labeler and carton machine. (See Figures 1-2-3)

Line No. 2 is also an integrated set-up, combining eight fan and count stations, powered slat conveyor, Seybold precision trimmer, plus double-deck gravity conveyor and carton wheel. (See Figures 4-5)

Line No. 1 utilizes a conveyor made up of a series of air film transfer tables. Five fan and count stations are situated on one side of this conveyor while the other side is equipped with a backboard for jogging the reams of paper as they are readied for the trimmer.

TABLE I—TYPICAL RUN WITH A SINGLE MIRRO-KEEN KNIFE

Paper	Cuts	Pattern	Elapsed Time (Hours)
25% Rag	1256	Trim 4 sides (loaded & unloaded by hand)	8
Sulphite	410	Trim 4 sides, 1 bust cut	4.5
25% Rag	66	Trim 4 sides (loaded & unloaded by hand)	
Sulphite	605	Trim 4 sides, 1 bust cut (unloading by hand)	8
25% Rag	700	Trim 4 sides, 6 bust cuts	
25% Rag	517	Trim 4 sides, 7 bust cuts	
25% Rag	265	Trim 4 sides, 6 bust cuts	8
Sulphite—Vellum Finish	72	Trim 4 sides, 7 bust cuts	
50% Rag—Litho Finish	404	Trim 4 sides (loaded & unloaded by hand)	8
50% Rag—Litho Finish	336	Trim 4 sides (loaded and unloaded by hand)	8
Sulphite—Vellum Finish	110	Trim 4 sides	8

Cutting and Trimming Upgraded

In the second phase of the over-all finishing room improvement program, the cutting and trimming methods and techniques were investigated.

With the cooperation of one of the leading paper knife manufacturers, Simonds Worden White Co., the paper knife itself was placed under exhaustive analysis and evaluation.

First, verification was made that the optimum steel was being used in the knives; next, the methods of grinding and sharpening, including resharpening procedures, were re-evaluated to assure the grestest efficiency in day to day operations; last, the problems of over-all knife finish were investigated and solved through the development by Simonds Worden White of a new knife finish called Mirro-Keen.

New Finish Cuts Regrinds

Knife manufacturers have been striv-

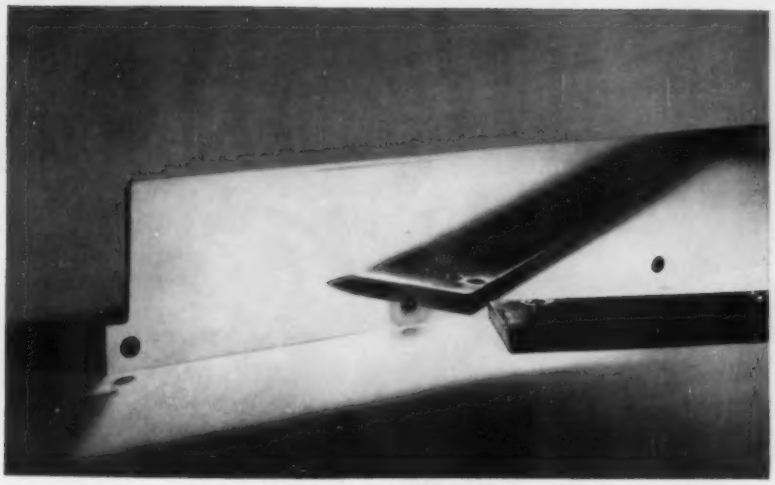


Figure 6—This photo shows the mirror-like finish imparted to paper knives by the Mirro-Keen process.

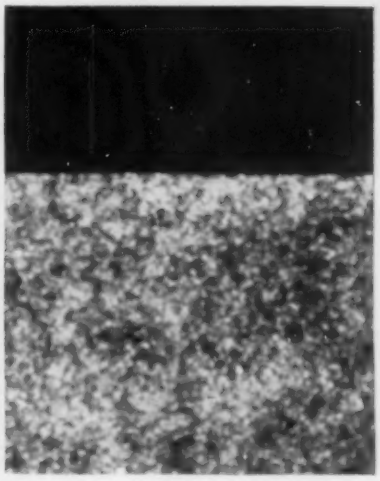


Figure 7 — Photomicrograph (70x) shows the smooth, sharp edge and uniform grind free surface on a Mirro-Keen knife.

ing for years to produce a knife that will stay sharper longer and require less regrinds. When it costs as much as $40 each time a trimmer knife is changed on an automated production line, it was felt that any increase in knife life between sharpenings would provide an automatic decrease in production costs.

With this goal in mind, Simonds Worden White developed the new knife finish. (See Figure 6) It involves the use of a special production process that leaves each knife bright and smooth to approximately three micro-inches (three millionths of an inch) over the entire face side.

This new process has made it possible to practically eliminate the grinding marks that in the past have become accepted as a necessary evil on paper trimming knives. The knife surface is so smooth and uniformly free of these imperfections, that its smoothness must be measured with a profile recording machine and indicated in millionths of an inch. Once the new finish is applied it remains for the entire life of the knife.

As a result of the smoother surface, the knife has a super sharp cutting edge that is free from burrs, nicks and scratches. This eliminated the broken and ragged edges that caused the marking and drawing of our paper stock. (See Figure 7)

A series of tests was run on the new knives when they were first placed in finishing room operation. Accurate figures were kept of the number of cuts, type of cuts, paper stock cut and hours of elapsed time. The figures compiled in one of these tests are shown in Table I. These figures represent the actual production runs achieved with one knife from the time it was placed on the machine to the time it was taken off to be reground.

Multiple Savings

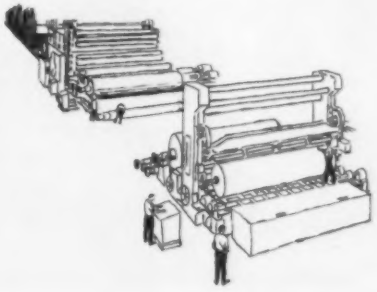
The savings resulting from this over-all upgrading program can also be considered as twofold.

Before the standardization on Mirro-Keen finished knives, it was found that the process integration alone was making it possible for four trimmers running eight hours per day to produce the same tonnage as previously required seven trimmers in the same time. In addition, employee morale and general working conditions were improved to such a degree that employee turnover has dropped to a negligible point.

After the new knives were placed in operation, further savings were realized by a considerable reduction in regrinding costs.

On the spring pressure clamp trimmer (Line No. 2), the new knives are reground only once every other shift; with conventional knives a regrind had been necessary during each shift.

On the hydraulic trimmer (Line No. 3), with clamp pressures from four to eight tons the new knives increased acceptable cuts between regrinds up to 417 per cent.



The following figures are actual dollars spent for regrinding before and after the introduction of the new knives:

1) April, May and June 1957 (Without Mirro-Keen knives) $2,782.20
2) April, May and June 1958 (With Mirro-Keen knives) ..... $ 773.96

Production figures in terms of pounds of paper cut were almost the same during the 1957 and 1958 periods. This means that the 1958 savings over the comparable 1957 period were:

1) Savings in regrindings costs $31.38 per day.
2) Total savings in regrinding costs for three months $2,008.24.
3) A savings of 72 per cent in regrindings costs was realized.

Another advantage is the fact that there is less draw in the trimming operation and consequently fewer rejects. The finish on cuts is now consistently bright and clean and clamp pressures are appreciably reduced. Production figures also revealed that due to the new knives during the month of June we were able to keep the trimmers in the three lines operating at 87.7 per cent efficiency, 83.5 per cent efficiency, and 89.3 per cent efficiency respectively.

These over-all improvements in Aetna Paper's finishing room are merely indicative of what can be achieved when the paper mill works closely with equipment manufacturers to achieve a common goal—the upgrading of paper technology and production competence.

Britain's First Post-War Paper Mill

Adds Another Machine

Fourth paper machine at this tissue mill is of unusual design and particularly versatile.

Eben M. Whitcomb Jr.
Editor-in-Europe,
Paper Trade Journal

Newest addition to the Wiggins Teape post war paper mill at Bridgend in South Wales is a paper machine designed and built by its own organization. Wiggins Teape, with 15 paper mills in Great Britain and part interest in three mills in other countries, is said to produce a wider range of papers than any other manufacturer in the world. It is as unusual for a paper company in Great Britain to build its own machine as it is on this continent. Even more unusual is the actual design of the machine which is detailed later in this article.

Wiggins Teape have also been pioneering in other directions. In addition to visiting the mill at Bridgend, the author was also at their new plant at Sudbrook, also in South Wales, during its start-up in early October. At Sudbrook, Wiggins Teape have built a neutral sulphite semi-chemical pulp mill, the first in Great Britain. In fact this is only the second wood pulp mill in Britain; the other produces groundwood. The semi-chemical pulp mill which uses a Kamyr continuous digester (there are no installations of this type in North America) will be the subject of an article by the author in an early issue of *Paper Trade JOURNAL*.

The possibility and desirability of producing tissue papers was something which was considered by the Wiggins Teape Group as long ago as 1938 but the Second World War prevented any development of the project until the end of that conflict. After extended market research in the usages of tissue papers in the field of hygiene, industry and packaging the decision was made to go ahead with the project.

Mill Site Selection

Many sites were surveyed and considered but ultimately it was decided to develop the mill on a site at Llangynwyd a few miles to the north west of Bridgend in South Wales. This is one of the areas for industrial development whereby it was hoped, to introduce a diversity of industrial enterprise. The area had previously depended, for its economic well being, entirely upon one basic industry—coal.

The site chosen met all the fundamental essentials for the development of a paper mill. An abundant supply of fresh soft water was available from the River Llynfi. The mill now consumes 320 million gallons a year or about 40,000 gallons an hour. This water is returned to the river after treatment in a Dorr Oliver Clariflocculator. The Central Electricity Authority were constructing the Llynfi power station close by and an agreement was made for the mill to take its supply of steam in the order of 200 million pounds per year or about 25,000 pounds per hour from the surplus steam available at the station. Since the electric power supply was available from the National Grid, this, with the purchased steam, obviated the necessity for a boiler house and at the same time assisted the economy of the electrical supply industry.

Jack, Jill and Baby

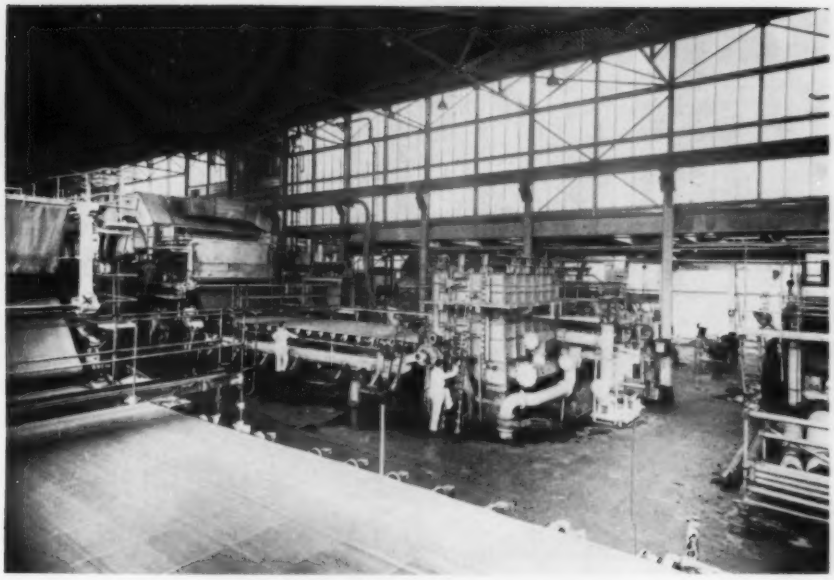
To produce the wide range of tissues including, toilet, serviette, packaging, pattern, handkerchief, surgical, textile, pleating and filter, three machines "christened" Jack, Jill and Baby were installed together with all the necessary auxiliary equipment. Jack is a fourdrinier with 125-inch trim producing unglazed tissues and Jill, a Yankee also trimming 125 inches, makes the M. G. tissues. Baby is rather more versatile than his parents—trims 100 inches and produces a wide selection of specialty dry creped tissues.

The mill started production in 1950, the first entirely new post-war mill in Great Britain. Although working at maximum production it became clear that the increasing demand of converters could not be met, and after careful examination of the market it was decided to install a fourth machine to be known as David.

Planning David

The board of directors of the Wiggins Teape Group decided on this project late in 1956, and the machine started up early this year, producing a saleable paper within a few hours. Thus this high-speed dry crepe machine was designed, manufactured, installed and brought into production within a period of only fourteen months. With a deckle of 100 inches it has a maximum designed speed of 1500 f.p.m.

The design was handled entirely by Bridgend Paper Mills, with advice from the Wiggins Teape Group Technical and Research Department, using their



Jack, Jill, Baby and David tissue machines are all located in the one machine room.

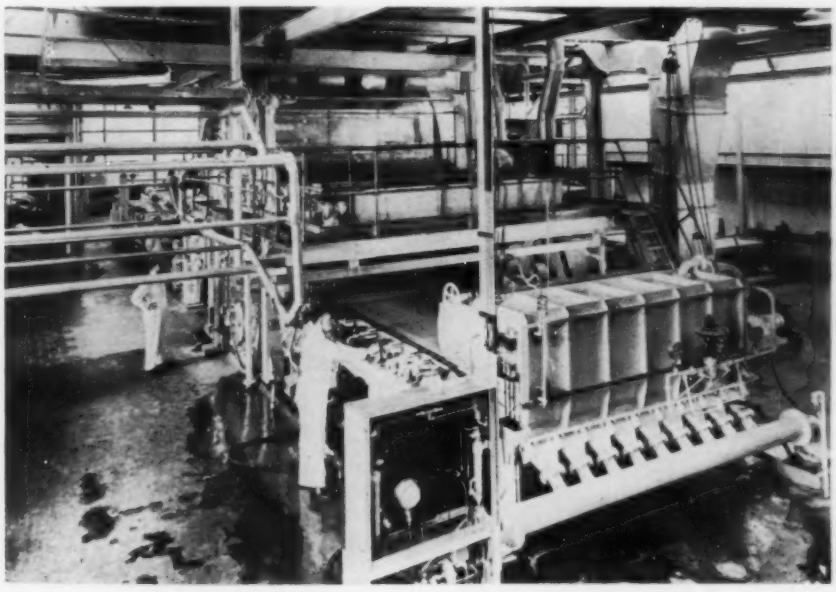
experience gained during the past six years and incorporating the latest advances in paper making throughout the world.

The decision to design and build this machine largely with their own resources was partly dictated by the time limit set, but also by the Group's policy of applying its wide knowledge of paper manufacture not only to the production of paper but also to the design of specialized machinery. By adopting this policy they were able to design a machine exactly to their own requirements and to start production on time.

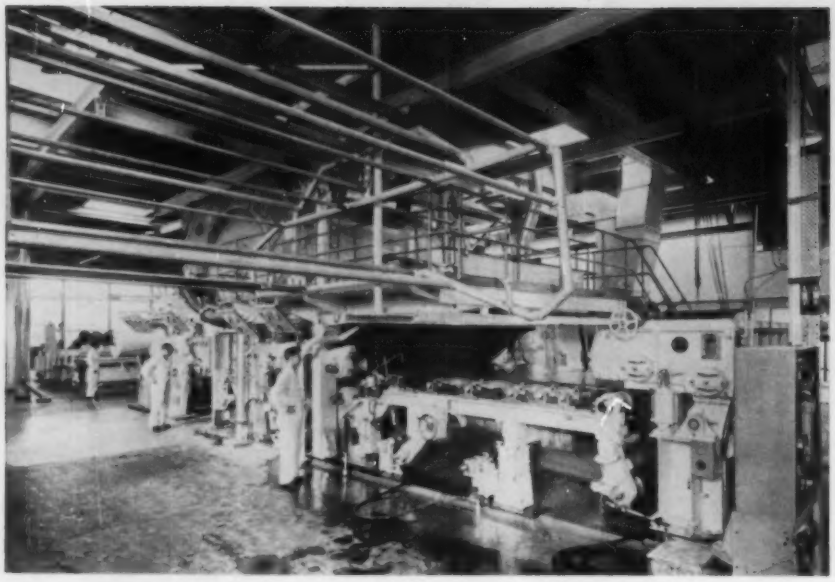
David's Main Features

The main features of the machine are briefly summarized:

1. Stock preparation done with a Hydrapulper and a Masson Midget refiner.
2. Stock cleaning by Dirtecs and a Selectifier screen.
3. Pressurized headbox of own design with variable pressure formation and fully automatic controls which allow paper to be made at any speed up to the design maximum of 1500 feet per minute.
4. Short (34 foot wire) cantilevered fourdrinier section for quick wire changing, with conventional table rolls replaced by specially designed bakelite scrapers.
5. Twin breast rolls for compactness.
6. Plain pick-up with plain bronze grooved suction roll with a plain rubber covered top roll.
7. One press (Millspaugh suction) between wire and dryer.
8. High velocity M.G. (Yankee) hood for extra drying capacity.
9. Four motor sectional electric variable speed d.c. drive fed from two rectifiers.
10. The machine reel is of the Pope type with single drum.
11. Welded mild steel framework in place of cast framing.
12. Fully automatic sedimentation



Wet-end of David, the Wiggins Teape unusual machine of own design and manufacture.



Close-up of David shows headbox over the wire and the twin breast roll arrangement.

fiber recovery system of their own development.

13. Instrumentation including consistency controller; headbox level and pressure controllers; steam pressure controller on M. G. cylinder and air temperature controller on M. G. hood air supply; air loading controls of pick-up roll, top suction press roll, M. G. pressure roll and calender rolls; loading controls on M. G. cylinder doctors.

14. Centralized stop/start controls for auxiliary plant.

15. Multiple-ply high-speed score-cut rewinder.

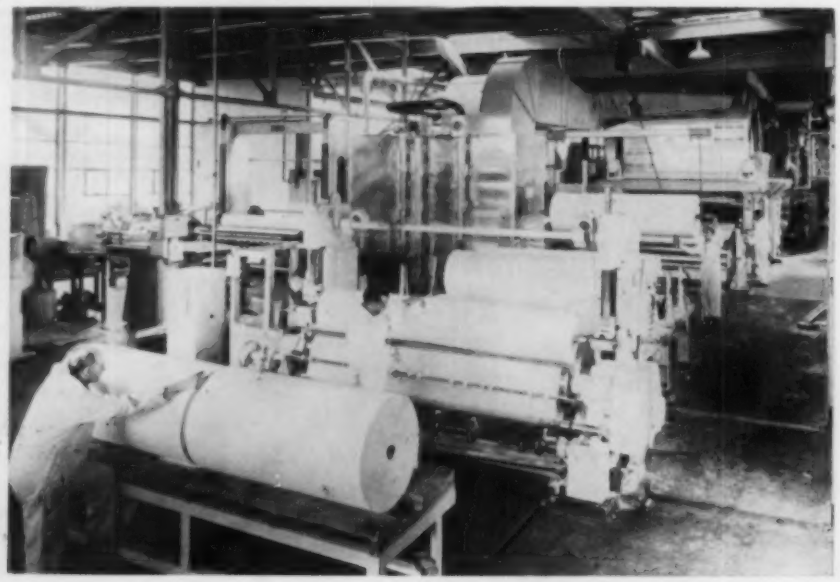
More Details of Equipment

The pressurized headbox is designed so that a substantial proportion of the web is formed under pressure inside the headbox and the proportion of the web so formed can be varied while the machine is running as a result of special features in the design. The balance of the web is formed in the normal manner on the short wire from stock flowing out under the slice.

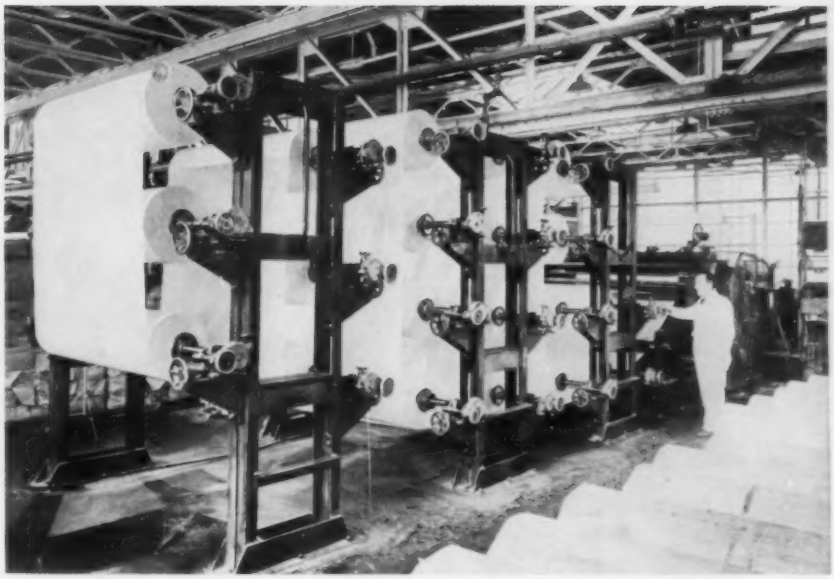
The hood was supplied by Carrier Ross Eng. Co., Ltd. The supply air velocity from the nozzles in the supply distribution pipes on to the paper is around 10,000 f.p.m., hence the term "high velocity." The system is designed to recirculate about 60 per cent of the drying air in order to reduce steam consumption. The balance is, of course, exhausted to atmosphere. The supply fan motor is 150 h.p. and the exhaust fan motor is 7.5 h.p. The steam heater batteries for the supply air are laid out for easy accessibility and designed with wash down sumps so that the grilled tubes can be quickly freed of the paper dust associated with any dry crepe machine. This design feature has eliminated all screens or air filters.

The fiber recovery system, developed at Bridgend after research on the furnishes and quality of paper being made, consists essentially of twin sedimentation tanks and depends upon the ability of the fiber in the furnishes used to settle when left relatively undisturbed. The cycle of operation in one tank is:

(a) The tank is filled with excess white



Reel and winder at David. The high speed score cut winder produces double ply rolls.



Cutter used for tissue sheets can cut and slit up to 20 reels at once.

water from the machine in such a way that there is little agitation in the tank; thus even during filling, settlement to the bottom takes place.

(b) When the tank is full, clarified white water is removed by a floating surface skimmer and the level gradually taken down to a predetermined limit.

(c) The thickened fiber that has settled to the bottom is then pumped back for use in the Hydrapulpers.

(d) The cycle recommences.

The second tank is operated out of phase with the first—i.e. while one tank is filling, the second tank is being skimmed down and emptied. The system is entirely automatic and requires no supervision or labor and has given 80 per cent fiber recovery.

The consistency controller is an open type De Zurik measuring element coupled to a Foxboro two-term pneumatic controller.

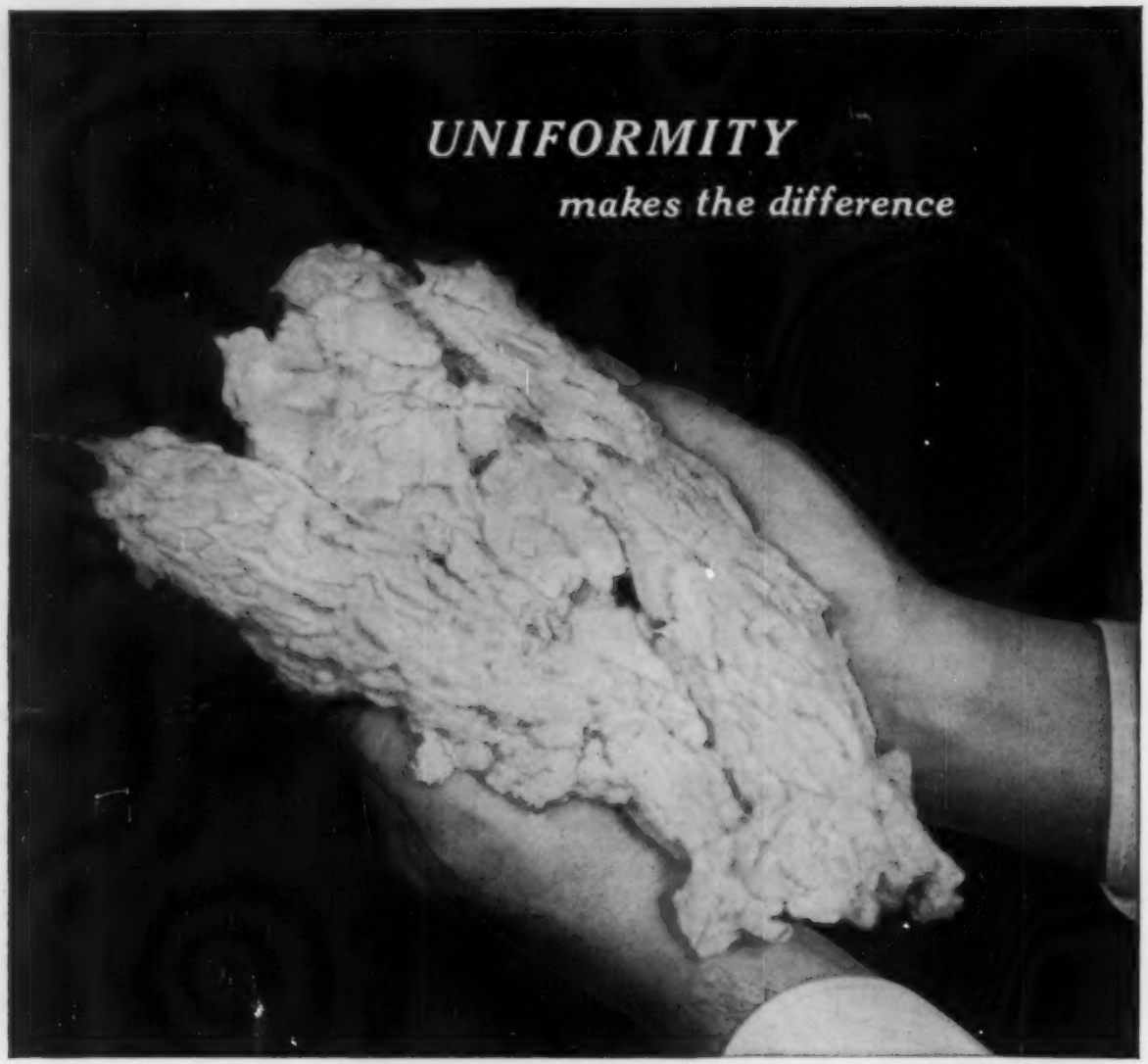
Labor, Fiber and Finishing

The Bridgend mill operates with four crews on a three shift basis, with one crew off while the other three work. Total employees are 300 with a weekly production of 400 tons of converted tissues. The mill operates continuously seven days a week with down time per machine for maintenance and clothing changes averaging eight hours per machine per week.

The plant has previously operated on Scandinavian and Finnish wood pulp. This will now be supplemented by semi-chemical pulp from the company's new mill at Sudbrook. Hydrapulpers, Morden Stockmasters and Jordans are used for stock preparation for the three original paper machines.

Reels from Jack and Jill are slit and rewound on Walmsley J type and Goebbels machines. Walmsley and Thiry equipment is used to slit and rewind the multiple reels from Baby and David. A cutter is used to slit and cut reels up to twenty at a time, where sheets are required. Spar drums and guillotines are used, especially for very large sheets.

Paper stock warehouse holds rolls, reels and sheets in large quantities.



Railway PAPER-RATED LINTERS

To produce bigger profits for you our research engineers stand ready to assist in developing new ways of using cotton linters. Throughout its many years, Railway has consistently pioneered new uses for cotton linters—has maintained its outstanding reputation for highest standards of *uniformity, color, quality and cleanliness.*

At Railway, "PAPER-RATED" means the finest linters for the finest paper. Write for further details today.

Railway SUPPLY AND MANUFACTURING CO.

General Office: 335 West Fifth Street, Cincinnati 1, Ohio

Cable Address: RAYCO, All Codes

THIS IS GASPESIA SULPHITE COMPANY

THIS FINE AIRMAIL PAPER...

IS 100% GASPESIA BLEACHED SULPHITE

Gaspesia made the pulp...a customer made the paper.
(If you would like a larger sheet, drop us a line.)

Even boxboard and tissue manufacturers may be surprised that this pulp... with *nothing* added...produces such fine paper.

If it were practical to make thousands of reams this way, each ream would be as fine. Our point is this: you get *uniform quality* paper products when you start with *uniform quality* Gaspesia Bleached Sulphite Pulp.

If you make boxboard, tissue or papeteries, or *any* paper, your product benefits from the superior characteristics of Gaspesia pulp. Trouble-free working properties help speed operations through every stage. Good strength, excellent bulk, high opacity and high brightness insure the quality of your finished product.

Location on the Gaspé Coast, within easy reach of waterways to the whole world, affords convenient water transportation, practically ice-free, to nearly every major market area. Shipping time to Europe is less than half that from our Pacific Coast. Transcontinental rail systems speedily deliver carload quantities to both the United States and Canadian markets.

Have *you* tried Gaspesia?

GASPESIA SULPHITE COMPANY LTD.
CHANDLER, QUEBEC, CANADA

SOLD BY: **Anglo Paper Products, Ltd.**
2055 Peel Street, Montreal 2, Quebec
67 Yonge Street, Toronto 1, Ontario

SALES REPRESENTATIVES IN THE UNITED STATES:
Northeastern Paper Sales, Inc.
400 Madison Avenue, New York 17, N. Y.
20 North Wacker Drive, Chicago 6, Ill.

LOBDELL roll grinders *for every purpose . . .*

- CHILLED IRON ROLLS
- MACHINE CALENDER STACKS
- ROLL GRINDING MACHINES
- ROLL CALIPERS
- KNIFE GRINDERS
- ABRASIVE CUT-OFF SAWS

The latest 48" Type C. W. Lobdell Roll Grinder with 30½" bed, equipped with variable speed drives, will handle rolls up to 48" diameter, and with a face length of 270"—The Grinder shown below was recently installed at the Hollingsworth and Whitney Division of Scott Paper Company, Mobile, Alabama. Write for details of our latest design.

UNITED
ENGINEERING AND FOUNDRY CO.
948 FORT DUQUESNE BOULEVARD
PITTSBURGH, PENNA.

Present Practices and Future Plans of Mills to Provide Own Pulpwood?

Consumption of own pulpwood has grown from 13 per cent of wood used in 1947 to 22 per cent last year. Present plans indicate an ultimate goal of 50 per cent, through greater use of own limits and acquisition of more forest lands.

John F. Backels

"In an effort to determine if pulp and paper manufacturing concerns in the United States are expanding vertically so as to produce larger proportions of their pulpwood needs than in the past, a questionnaire was mailed to all pulpwood users listed in the 1957 edition of *Lockwood's Directory of the Paper and Allied Trades*. 132 questionnaires were sent out in this manner.

"The results which were received are shown in Tables I through IV."

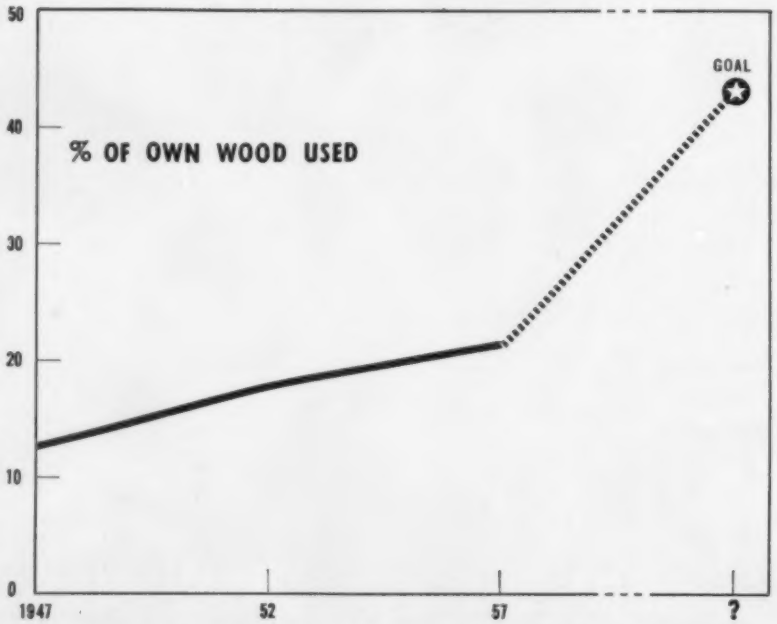
Limitations of Questionnaires

There are several limitations brought about by the use of the questionnaire which must be noted before any conclusions can be drawn from this data.

1. Of the 132 questionnaires sent out, 82 were completed and returned. These 82 questionnaires may not necessarily constitute a random sample, but it is probably large enough to be representative of the behavior of the entire industry.

2. Only firms listed in the 1957 edition of *Lockwood's* were sampled. Very likely this listing contained all those firms which used pulpwood in 1957, but not necessarily all those using it in the years previous to 1957.*

*Editor's Note—Not necessarily, but actually yes. This report is a summary of a study made by John F. Backels while working towards a Master of Business Administration degree at the University of Washington.



3. As with all questionnaires utilizing the "forced choice" answer, some difficulty may have been experienced in the interpretation of the questions by the respondents. However, it is felt that reasonable estimates were furnished and that more intensive investigation would not alter the results significantly.

"Despite these limitations, the data support the following conclusions:

Conclusions

1. Pulp and paper manufacturing firms are acquiring more forest lands.

2. These pulp and paper companies, on the average, intend to grow approximately 50 per cent of their pulpwood needs on company owned lands in the future.

TABLE I[1]—Mean Per Cent of Pulpwood Needs from Company Owned Lands and "Ultimate Goals"

Year	Company Size Group	Number in Sample	Mean Per Cent
1947	Large	15	22.0
	Middle	31	17.0
	Small	28	3.0
	All Firms	74	12.7
1952	Large	17	25.6
	Middle	34	23.7
	Small	28	5.0
	All Firms	79	17.7
1957	Large	17	30.8
	Middle	36	26.9
	Small	28	8.0
	All Firms	81	21.6
Ultimate Goals	Large	15	56.0
	Middle	34	55.3
	Small	27	21.0
	All Firms	76	43.2

[1]Company size based on company's own evaluation as follows: *large*—50 companies using the largest amount of pulpwood; *medium*—50 companies using the "average" amount of pulpwood; and *small*—50 companies using the least amount of pulpwood.

TABLE II—Future Production Estimates Compared With Past

Company Size Group	Amount the Company Expects to Produce			
	More	Less	Same	Unknown
Large	15	0	2	0
Middle	27	3	4	1
Small	10	2	15	0
All Firms	52	5	21	1

TABLE III—Number of Firms Giving Reasons for Growing Own Wood, Classified by Frequency of Response and Order of Importance—1957

Reason	Order of Importance				
	1	2	3	4	5
Continuous Supply of Pulpwood	55	12	0	1	1
Stabilized Operations	15	29	7	6	1
Lower Pulpwood Cost	7	10	21	8	3
Control of Species Received	4	8	11	10	13
Additional Profits	3	2	10	10	10

TABLE IV—Companies Reporting Net Changes in Forest Holdings—1956 and 1957

Company Size Group	1956			1957		
	Net Gain	Net Loss	No Change	Net Gain	Net Loss	No Change
Large	16	0	1	16	0	1
Middle	23	1	8	25	1	6
Small	7	0	19	6	0	19
All Firms	46	1	28	47	1	26

3. The industry wide average goal of 50 per cent appears to be consistent with the trend in recent years since production on company lands has increased from 12.7 per cent of needs in 1947 to 21.6 per cent of needs in 1957.

4. In regards to past performance and to future pulpwood production goals the averages for the small pulpwood using firms are much smaller than those for the large, middle, and all firms categories.

5. Pulp and paper companies have adopted and are adopting a policy of backward vertical integration by expanding pulpwood operations to insure adequate raw material supplies in order to keep their mills operating steadily in the future.

Mr. Backels' study sheds some light on how far pulp and paper companies plan to go in producing pulpwood supplies on company-owned lands. Based on 62 per cent returns of his questionnaire, which is large enough to indicate trends within the industry, Mr. Backel concludes that pulp and paper companies plan to grow about 50 per cent of their future pulpwood needs on company lands. This indicates a continuing dependence upon independent producers for at least half of the pulpwood requirements.

[1]From American Pulpwood Ass'n Technical Release No. 58-R21. A complete copy of Mr. Backels paper is available from the ass'n whose address is 220 East 42nd St., New York 17, N. Y.

Alvin H. Johnson & Co.

INCORPORATED

Consulting and Designing Paper Mill Engineers

415 LEXINGTON AVENUE NEW YORK 17, N. Y.

PAPER MILL DESIGN PROCESS ENGINEERING POWER PLANTS

STRUCTURAL AND ARCHITECTURAL DESIGN

REPORTS APPRAISALS ESTIMATES AND SURVEYS

Kalamazoo Glazed Tile Tanks

Designed for the Paper Industry

6 Reasons why you should give us a call on your next job

Kalamazoo's steel reinforced glazed tile tanks are designed and erected by experts. If you have a specialized building problem it will pay you early dividends to call us now.

TILE TANK DIVISION

Kalamazoo TANK & SILO CO. KALAMAZOO MICHIGAN

NEW LITERATURE

D-C High Power Servo Motors

Contains application information, chart showing typical motor characteristics, dimension diagrams and conversion formula for variable speed motors. Also discusses design features. Bulletin GEA-6831. General Electric Company, One River Rd., Schenectady 5, N. Y.

Design and Specification of Watertight Concrete

Discusses the basic requirements for watertight concrete and how Pozzolith reduces permeability, shrinkage, bleeding and segregation to produce structural concrete that is resistant to water penetration under normal conditions. Master Builders Co., 7016 Euclid Ave., Cleveland 3, Ohio.

Flexidyne Dry Fluid Drives

Describes expanded line of Flexidyne dry fluid drives and couplings. Also includes product photographs and engineering drawings, installation pictures showing applications in a cross-section of industry. Bulletin A-640B. Dodge Mfg. Corp., Mishawaka, Ind.

Hydrocide Colorcoat

Outlines the properties and advantages of Hydrocide Colorcoat, a heavy bodied, textured decorative coating for exterior masonry walls above grade, having outstanding weather resistance. Also tells how it can be used for interior masonry surfaces above grade. Brochure BP 3063. L. Sonneborn Sons, Inc., Building Products Div., 404 Fourth Ave., New York 16, N. Y.

Joy Low Pressure Compressors

Includes specifications on three models ranging from 756 to 7392 c.f.m. and a detailed sectional drawing. Also provides illustrations on all vital parts and features. Bulletin A-95. Joy Mfg. Co., Henry W. Oliver Bldg., Pittsburgh 22, Pa.

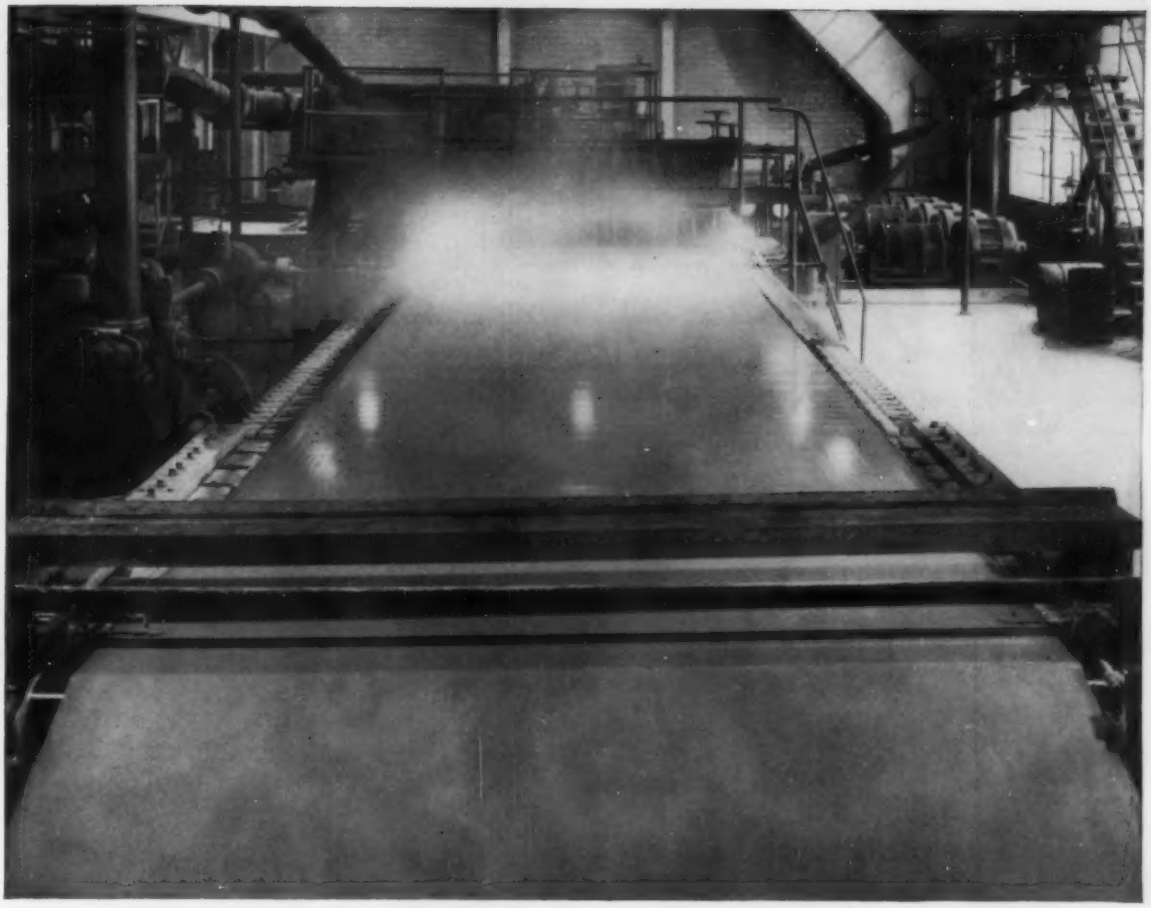
Laboratory Rotameters

Describes two types of meter tubes—a high capacity fluted tube and a conical tapered tube. These Rotameters, which have flexible couplings, are applicable to both liquids and gases. Bulletin 18-L. Dept. MJ, Schutte and Koerting Co., Cornwells Heights, Bucks Co., Pa.

Sellers Hydraulic Jet Cleaners

Covers hydraulic jet models for heavy-duty cleaning of walls, floors, or process equipment of all types. Also includes drawings and photographs, together with essential specifications of each model. Bulletin 424-B. Sellers Injector Corp., 1600 Hamilton St., Philadelphia 30, Pa.

(Continued on page 47)



A Complete Starch Line... *tailor-made to your needs*

Today's complex papermaking operations require a wide range of starches—starches specifically designed to do a particular job. You'll find that the complete starch line offered by Corn Products Company includes types for every phase of modern papermaking. These starches are available in so many varieties that *they can literally be tailor-made to suit individual requirements* and production problems of individual plants!

For example, in beater sizing, preferred starches for improved surface qualities plus excellent bursting and tensile strength, include the many varieties of Globe and pre-cooked Amijel. For calendar sizing, you'll find a complete line of Claro and Eagle starches, as well as Globe starches for enzyme conversion. In this operation, Globe and Excello dextrines and thin-boiling Foxhead starches are also used. For general coating, with good viscosity at high solids content, use Claro and new improved Ten-O-Film starches.

And the research staff of Corn Products Company, largest in the industry, is constantly at work developing new products to meet the changing needs of modern papermaking.

Our technical representatives are completely versed in the problems that arise with wet end additives. Their impressive field experience and continuing research into starch, evidenced by frequent publications in trade and technical journals*, is always at your service. Take full advantage of the facilities and experience of the world's largest corn processors—call our nearest sales office or write direct.

Fine products for the Paper Industry: GLOBE® • EAGLE® • FOXHEAD® • CLARO® • AMIJEL®
CORAGUM® • TEN-O-FILM® starches • GLOBE® • EXCELLO® • LAM-O-DEX® dextrines and gums.

CORN PRODUCTS SALES COMPANY • 17 Battery Place, New York 4, N. Y.

*A reprint on the results of corn starch usage is available on request from our New York office.

NEED

ammonia
chlorine
soda ash
sulfuric acid

CAUSTIC SODA

nitric acid
carbon dioxide
sodium nitrate
methanol

NOW?

Tank cars, tank trucks, barges, and tankers—seven shipping points when you...

CALL

OLIN MATHIESON

NOW!

Atlanta	MUrray 8-5916
Buffalo	Madison 3519
Charlotte	Edison 3-1175
Chicago	SUperior 7-7143
Cincinnati	Main 1-1983
Houston	CApitol 5-6511
New Orleans	Tulane 7491
New York	PLaza 3-0700
Pasadena	Ryan 1-7477
Philadelphia	RIttenhouse 6-2610
Providence	GAspee 1-2070
St. Louis	VOlunteer 3-5300
Montreal	REgent 1-2771

OLIN MATHIESON CHEMICAL CORPORATION
INDUSTRIAL CHEMICALS BALTIMORE 3, MD.

6313

PRICES OF FIBERS

MARKET WOOD PULP

FOURTH QUARTER CONTRACT PRICES PER SHORT AIR-DRY TON

	Delivered Basis U.S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$82.50/ 90.00	$82.50/ 90.00	‡$90.00/ —	‡$80.00/ —	‡$90.00/ —
Bleached Gw'd	$97.50/100.00	$97.50/100.00			
Kraft, Blchd.	157.00/ —	160.00/162.50	$157.00/162.50*		$157.50/ —
Kraft, Blchd. Hdwd.	152.00/ —		$137.00/ —		
Kraft, Semi-bleached	140.00/ —	140.00/ —			
Kraft, Unbl.	117.50/125.00	125.00/130.00	†125.00/130.00	125.00/ —	
Sulphite, Blchd.	155.00/ —	155.00/ —	*155.00/ —	*155.00/ —	155.00/ —
Sulphite, Bl. Hdwd.	150.00/ —				
Sulphite, Unblchd.	135.00/ —	135.00/ —	†135.00/ —	*135.00/ —	
Sulphite, Unb'l. Gl'sn		134.00/ —	†134.00/ —		
Soda, Blchd.	147.00/150.00	150.00/ —			

‡ On Dock Atlantic Ports. * Freight allowed. † Varying Freight Allowances

NEW YORK RAG MARKET

PRICES NOMINAL

New Domestic Cotton Cuttings

Delivered Mill Basis

	Per 100 lbs
No. 1 White Shirts	$13.50/$14.50
No. 1 Unblchd. Muslins	16.00/ 17.00
Blchd. & Unblchd. Underwears	15.00/ 16.00
No. 1 Light Cream Silesias	12.50/ 13.50
No. 1 Blue Overalls	8.00/ 9.00
Percales	5.50/ 6.00
No. 1 Light Prints	5.00/ 5.50
Suntan Khakis	5.75/ 6.75
Cottonades	3.00/ 3.50
No. 1 Washables	2.50/ 3.25

Old Domestic Cotton Rags

Delivered Mill Basis

	Per 100 lbs
Mixed White	$3.25/$3.75
Cotton Pants & Overalls	2.25/ 2.75
Twos and Blues, Repacked	2.00/ 2.50
No. 2 Roofing	.65/ .80

COTTON LINTERS

Memphis Market

f.o.b. Oilmills

Week Ended Oct. 17	Per 100 lbs.
Grade 1 } n. a.	
2 }	
3 }	$8.50/ $6.75
4 }	6.50/ 6.00
5 } 1 cut—felting	5.50/ 5.25
6 }	4.50/ 4.25
7 }	4.00/ 3.50

* Based on 73% cellulose.

OLD ROPE & BAGGING

(Prices to Dealers, f.o.b. N.Y.)

	Per 100 lbs.
New Burlap Cuts	$4.50/$5.50
Scrap Burlap	3.50/ 4.25
Australian Wool Pouches	5.00/ 5.50
Gunny	4.50/ 5.00
No. 1 Domestic Manila Rope	6.25/ 7.50
No. 1 Foreign Manila Rope	5.25/ 6.25
Domestic Sisal Strings	4.00/ 4.50

WASTE PAPER MARKET

Mill Prices, f.o.b. Trucks Shipping Point — Includes Brokerage

These quotations are a partial indication of the price range on volume tonnage in each market on the date specified, as gathered from major dealers and brokers. SPECIAL PACKINGS AND SPOT TONNAGE NOT INCLUDED. Prices nominal.

	New York Oct. 20	Boston Oct. 20	Chicago Oct. 20	Los Angeles Oct. 20
No. 1 Mixed Paper	$12.00/ 13.00	11.00/ 14.00	9.00/ —	14.00/ —
No. 1 News	18.00/ 19.00	17.00/ 18.00	20.00/ —	15.00/ —
Overissue News (Lg. size)	20.00/ 23.00	18.00/ 20.00	25.00/ —	19.00/ —
Mill Wrappers	19.00/ 22.00	16.00/ 18.00	12.00/ —	14.00/ —
Old Corrugated Containers	26.00/ 27.00	25.50/ 26.00	27.00/ —	25.00/ —
Super Resorted Kraft Paper	35.00/ 40.00	35.00/ 40.00	40.00/ —	45.00/ —
New Double Kr. Ld. Corr. Cuts	40.50/ 40.00	40.00/ 42.50	42.50/ —	30.00/ 35.00
(Semi-chem. medium)	45.00/ 50.00	45.00/ 50.00	45.00/ 50.00	35.00/ 36.00
New 100% Kraft Corr. Cuts	50.00/ 55.00	50.00/ 55.00	57.50/ —	45.00/ —
New Br. Kraft, Env. Cuts	70.00/ 75.00	70.00/ 75.00	52.50/ —	50.00/ 55.00
New Br. Kr. Bag Waste Prntd.	55.00/ 60.00	55.00/ 60.00	52.50/ —	55.00/ 60.00
New Br. Kr. Bag Waste Unprintd	60.00/ 65.00	65.00/ 75.00	62.50/ —	55.00/ 60.00
No. 1 Groundwood Shvs.	25.00/ 30.00	25.00/ 30.00	22.00/ —	30.00/ 35.00
White Newsblanks	60.00/ 65.00	55.00/ 60.00	40.00/ —	55.00/ —
No. 1 Soft White Shvs.	60.00/ 65.00	60.00/ 65.00	55.00/ —	— / —
Super Soft White Shvs.	65.00/ 75.00	75.00/ 85.00	65.00/ —	— / —
Hd. White Shvs.	90.00/ 95.00	95.00/105.00	85.00/ —	85.00/ 90.00
Hd. White Env. Cuts	105.00/110.00	110.00/115.00	90.00/ —	100.00/110.00
Col. Tab. Cards	60.00/ 65.00	60.00/ 65.00	52.50/ —	27.50/ —
Manila Tab. Cards	85.00/ —	75.00/ 85.00	75.00/ —	65.00/ —
No. 1 Col. Ledger	32.50/ 37.50	30.00/ 35.00	45.00/ —	27.00/ —
White Ledger	60.00/ 62.00	57.50/ 62.50	57.50/ —	55.00/ —
Mixed Book & Mag.†	20.00/ 23.00	18.00/ 21.00	14.50/ —	— / —
No. 1 Books‡	25.00/ 30.00	25.00/ 30.00	32.50/ —	— / —

† Includes Time & Life; no coarse groundwood. ‡ Not to exceed 10% of groundwood.

Material Handling Systems

Summarizes material handling systems at five leading paper industry plants in field report form. Hyster Co., 1003 Myers St., Danville, Ill.

Sun Industrial Products

Gives information on complete line of industrial products. Booklet. Sun Oil Co., Industrial Products Dept., 1608 Walnut St., Philadelphia 3, Pa.

Steam Turbine Performance and Economics

308 p. Book by Robert L. Bartlett, Supervisor-Engineering Cost Analysis Component for General Electric's Steam Turbine Dept. Price $12.50. This volume is a combined guidebook and reference for the electric power industry on the subject of calculating steam power plant performance and its application in preparing economic studies. Available from McGraw Hill Publishing Co., 330 W. 42nd St., New York, N. Y.

Standardized Process Instruments

Covers indicators, transmitters, recorders and controllers for flow, pressure, temperature, density, viscosity and consistency. Each item has been given a number to facilitate quick shipment. Catalog 2. Fischer & Porter Co., 941 Jacksonville Rd., Hatboro, Pa.

OBITUARIES

Lawrence H. Wight, 47, former New England divisional sales manager for Scott Paper Co. and most recently on special assignment, died at Scarsdale, N. Y. He was a resident of Hingham, Mass.

Mr. Wight joined Scott in 1937 and had served in a number of sales districts in Pennsylvania, Michigan and Indiana before being appointed district manager in Boston in 1946. Three years later he was named divisional sales manager for New England.

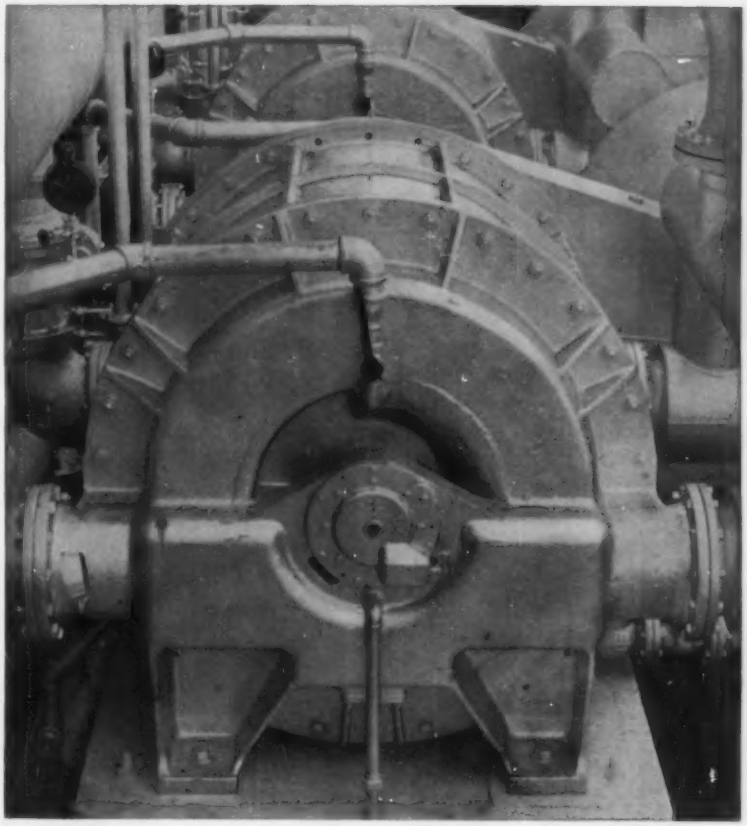
Harry J. Dowd, 75, president of H. J. Dowd Co. Inc., of Cambridge, Mass., manufacturer and distributor of paper products, died at his home in New Hampshire.

Mr. Dowd was a past president of the Boston Executives Assn., prominent in the New England Paper Trade Assn.

Robert Hopper, 58, of Alandale, Chesterfield county, president of the Duplex Envelope Co., died at a local hospital.

He also was associated with Montag Brothers of Atlanta and had been president of the Hopper Paper Co. here from 1927 until 1954.

High machine speeds? High temperature headbox stock? You need NASH Vacuum Pumps!



Air from the suction rolls on paper machines carries with it substantial quantities of moisture. This considerably reduces the effective air handling capacity of any vacuum pump except the Nash. In the Nash Vacuum Pump, because of the unique principle of operation, the bulk of this vapor is effectively condensed inside the pump. The total capacity of a Nash is therefore increased.

When you specify a Nash Pump it can be closely sized to the job. It is not necessary to select an over-sized unit, because the rated capacity of the Nash may be relied upon.

That is one of the reasons why Nash Vacuum Pumps are installed in over a thousand leading Paper Mills. An engineer from Nash will be glad to survey your mill, and make recommendations, entirely without obligation to you.

NASH ENGINEERING COMPANY

441 WILSON ROAD, SO. NORWALK, CONN.

Gates Rubber Co., Denver, Col., recently announced three promotions. They are: H. Benjamin Duke, Jr., manager of industrial relations; Edwin J. Busch, Jr., divisional advertising manager for industrial products and Warren S. Williams, manager of printing services.

Mr. Duke, who has been with Gates 12 years, started in the automotive sales division. Later he became a market specialist and a business research specialist before assuming his new post.

Mr. Busch joined Gates in 1947 as an engineer. He turned from that to industrial advertising, becoming acting manager of that division in 1954.

Mr. Williams joined Gates in the purchasing department.

John R. Casey

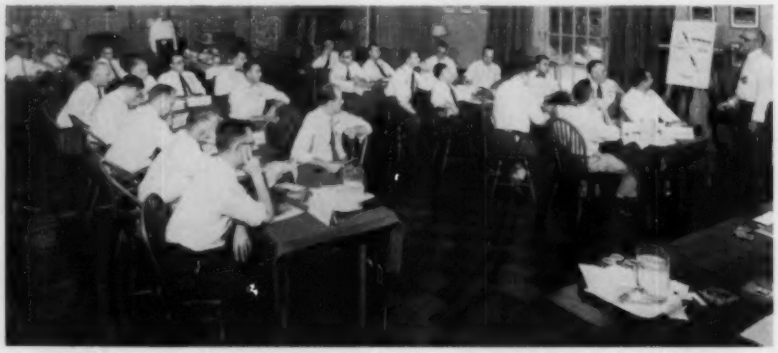
The General Electric Co. has named John R. Casey manager of user industries sales for New England. Mr. Casey, a native of Worcester, Mass., graduated from Worcester Polytechnic Institute in 1937 with a bachelor of science degree in mechanical engineering, and immediately joined General Electric Co.

always in the market

baltimore
chicago
detroit
jersey city
kalamazoo
los angeles
oakland
philadelphia

PIONEER PAPER STOCK COMPANY

graders and packers of waste paper



Huyck Felt Co. recently conducted its ninth felt workshop. Graduates, seated clockwise at left are: R. W. Hanehan, Ryegate Paper Co.; M. J. Nossaman, American Boxboard Co., Grand Rapids; M. Gade, Kimberly-Clark, Fullerton, Cal.; G. Sisler, Bergstrom Paper Co.; J. E. Wallace, Fleming & Son; W. Metcalf (guest speaker); J. O. Ross; R. W. Abare, Crane & Co.; D. Schultz, Charmin Paper Products; J. M. Porusta, J-M; L. MacDonald, Mohawk Valley Paper Co. Around the right-hand table (starting at front, inside) are: L. J. Thaisz, Continental Paper Co., Ridgefield Park; R. W. Guise, Eaton-Dikeman; J. P. Belliveau, Fitchburg Paper Co.; L. Reiman, Consolidated Water P&P; G. G. Callahan, Crane & Co.; G. Wehrle, Continental Paper Co., Ridgefield Park; G. Guise, Eaton-Dikeman Co.; G. D. Black, Newton Falls Paper Co.; W. J. Zarichak, Strathmore Paper Co.; F. G. Hayes, Jr., Brown Co.; P. W. Horeyseck, Continental Can Co., Uncasville. Another graduate not shown was B. J. Molino, Peter J. Schweitzer, Spotswood. At far right is Huyck's Director of Physical Research and Development, Dr. Dan B. Wicker, who acted as discussion leader.

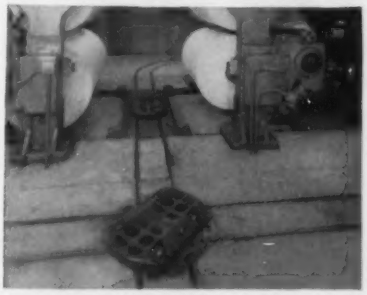
CHAS. T. MAIN, INC.
ENGINEERS
Process Studies, Design, Specifications and Construction Supervision
PULP AND PAPER MILLS
Steam, Hydraulic and Electrical Engineering
Reports, Consultation and Valuations
80 Federal Street Boston 10, Mass.

Design · Construction · Modernization
THE RUST ENGINEERING CO.
930 FORT DUQUESNE BLVD.
PITTSBURGH 22, PA.
BIRMINGHAM • BOSTON • NEW YORK

LOCKWOOD GREENE
ENGINEERS
Site Investigations, Design and Construction Supervision
PULP AND PAPER MILLS
Steam, Electrical, Water, Waste
Reports, Appraisals
MONTGOMERY BLDG. SPARTANBURG, S.C.
NEW YORK BOSTON

Track and Dollies for 3000 lb. Rolls

SAVE TIME AND LABOR



Make roll handling safer and easier with a track system engineered by Dilts. Dollies are floor-loaded —lift truck traffic and crowded aisles are eliminated.

Dollies are mounted on anti-friction bearing rollers. Turntables, transfer tables, straight and curved track sections and switches are available in standard units to handle rolls up to 3000 lbs.

A Dilts engineered system is easy to install and requires no maintenance. Write for Specification Sheet 114.

THE BLACK-CLAWSON COMPANY
DILTS DIVISION • FULTON, N. Y.

Concrete Gravity Air-Water-Wash type water Filtration Plant producing, at low cost, water with turbidity 0, color under 5 and iron 0.05 p.p.m. Fe.

OTHER PRODUCTS

Demineralizing Plants
Water Softening Plants
Pressure Filter Plants

and

All other types of water treating systems, including strainer valves, air wash systems, filter sand and anthracite beds and all filter repair and replacement parts. Over 50 years experience building new and modernizing old water treatment plants.

Write for FREE Bulletins

HUNGERFORD & TERRY, INC.
CLAYTON 4, NEW JERSEY

TAYLOR-STILES "GIANT" CUTTERS CUT TONS PER HOUR OF ANY RAG STOCK

NEW MILL CUTTINGS

Taylor-Stiles Rag Cutters, in tandem, at the plant shown, cut and then cross-cut 5 tons of mill cuttings an hour as a base material for absorbent paper used in vulcanized fibre.

MIXED RAGS FOR ROOFING

The popular 520 rag cutter cuts tons of waste rags an hour. Apparently its only limit is the ability of the workers to keep the feed apron loaded. This particular machine has regularly taken pieces of metal, tin cans, buttons, and bottles mixed in with the rags without apparent damage.

For details of these machines write for folder App. 203.

TAYLOR, STILES & COMPANY
10 Bridge Street Riegelsville, New Jersey

Plant Site Information

Complete reports on excellent locations for the manufacture of pulp and paper in the Seaboard Southeast will be furnished interested prospects. Our line serves one of the world's finest timber growing regions.

Accurate, up-to-the-minute information on timber supply, water, plant sites and other important factors is yours for the asking.

Address: Warren T. White
Assistant Vice President
Seaboard Air Line Railroad Company
3600 West Broad Street
Richmond, Virginia

SEABOARD AIR LINE RAILROAD

Restigouche
BLEACHED SULPHITE PULP

for the manufacture of cellophane, rayon and paper products

FRASER COMPANIES, LTD.
Edmundston, N.B., Canada

The Papermaker specifies
BOLTON EMERSON
TRADE MARK

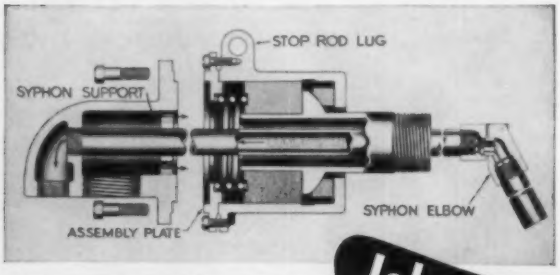
First Choice in REPLACEMENT TACKLE for all makes, sizes & types of Stock Treating Equipment

- Custom Heat Treated Steel
- Bolton Special Stainless Steel
- Hard Rolled Phosphor Bronze
- Specialized Metallurgy
- Laboratory Services
- Precision Craftsmanship

Contact: John W. BOLTON & Sons, Inc.
and
The EMERSON Manufacturing Co., Division
Lawrence, Massachusetts

Rotary Joint Headquarters

★ Johnson started the whole idea. Today's *complete* line includes sizes from ¼" to 8" . . . self-supported, pipe-supported, or rod-supported . . . for stationary or rotating syphon pipe . . . all operating speeds and pressures . . . for paper machines, calenders, corrugators, waxers, embossers, roofing machines, printing presses.



Type SDP shown. Hinged syphon elbow replaces unwieldy curved syphon pipes with two straight pipes. Newest Johnson development is the Quick Release nipple. Write for Bulletin S-3001.

Johnson Rotary Pressure Joints

First in the Paper Industry

THE JOHNSON CORPORATION
828 Wood St., Three Rivers, Michigan

Supplying Your Requirements

CUT COST

USE PULP SUBSTITUTES

WASHINGTON, D. C.
CAMDEN, N. J.
NEW YORK, N. Y.

THOMAS PAPER STOCK COMPANY
1500 No. Hooker Street • Chicago 22, Ill.

if it's done better with spray nozzles–

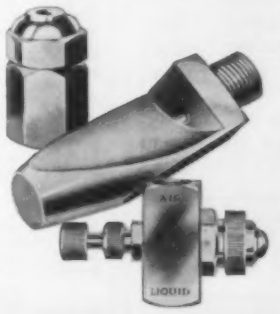
better best

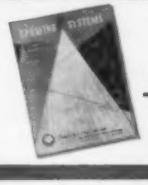
it will be done **best** with
SPRAYING SYSTEMS CO.
SPRAY NOZZLES

HERE'S WHY:

1. You have a complete choice of **design types** to give the exact spray characteristics required.
2. You have thousands of **capacities** to choose from . . . for more exact volume control.
3. You have a complete choice of **materials** for chemical compatibility.

Your inquiry is invited.





SPRAYING SYSTEMS CO.
3220 Randolph Street
Bellwood, Ill.

For complete spray nozzle information write for Catalog 24.

Westvaco Quality Papers

Westvaco manufactures a wide range of high quality paper products—from fine printing to rugged converting papers. All of these papers are made from virgin chemical pulps to precise standards of uniformity and quality—Westvaco's guarantee of top performance.

Printing Papers . . . Coated and uncoated letterpress, coated and uncoated offset, and gravure.

Business Papers . . . Bond, mimeo, duplicator, ledger.

Bristols . . . Index, post card.

Converting Papers . . . Label, tablet, envelope, lining, tabulating card, coating raw stock.

Bleached Boards . . . Cup, coated and uncoated carton boards, converting and barrier boards, file folder and tag stock.

Kraft Papers . . . Bag, multi-wall sack, envelope, asphalting, gumming, interleaving, waxing.

Containerboard . . . Linerboard and corrugating medium.

Market Pulp . . . Bleached and unbleached sulphate.

West Virginia Pulp and Paper Company
230 Park Avenue, New York 17, N. Y.
85 East Wacker Dr., Chicago 1, Ill. • 503 Market St., San Francisco 5, Cal.

PRACTICAL PAPER TECHNOLOGY
by William Bond Wheelwright

This book begins with a survey of "Progress in the Paper Industry" and ends with a list of books recommended for collateral reading. The intermediate chapters are entitled: "How to Judge Paper"; "Physical Aspects of Paper"; "Practical Manual and Visual Tests"; "Essential Facts About Papermaking"; "Coated, Glazed and Specialty Papers"; "Permanence of Paper"; "Paper Difficulties in Converting"; "Paper as a Medium for Printing"; "Letterpress Printing"; "Offset Lithography"; "Intaglio Processes."

Also a Supplement containing a Quiz Test on paper.

Practical Paper Technology, Price $1.75
Foreign Delivery—25c extra
Remittance with order

Lockwood Trade Journal Co., Inc.
49 WEST 45th ST. NEW YORK 36, N. Y.

NOW THERE IS A NEW, IMPROVED SLOTTED END OF GRAIN

SUCTION BOX COVER

The characteristics of end grain Maple naturally provide a smooth, even, long wearing surface. Laminated plastic cross members support the Maple end grain lands. LOVAC construction eliminates sag. Check these features: Eliminates streaking, less pinholes, lessens clogging, gives longer wire life, even vacuum, better fibre formation and better tensile strength.

Write for nearest representative, data sheet and literature.

APPLETON WOOD PRODUCTS CO. APPLETON - WISCONSIN

University of Maine Lectures
on Pulp and Paper Manufacture

SERIES NO. 2 A Valuable Textbook for the Paper Industry
Embracing the Complete Lectures as given at the University of Maine.

Three hundred and seventy-three pages and an additional 4-page colored insert of up-to-date material covering a broad field in both pulp and paper making and including many fine illustrations and diagrams.

For students expecting to enter the industry who wish to increase their knowledge and improve their positions, this textbook offers a complete education in pulp and paper manufacture.

For executives, superintendents, chemists, engineers and others whose knowledge of the industry is more comprehensive, this textbook will be invaluable as a reference for providing figures, process details, etc.

Bound in Cloth—Gold Lettering $5.00 per Copy Remittance with Order Postage Prepaid

Published by **LOCKWOOD TRADE JOURNAL CO., Inc.**
49 WEST 45th STREET **NEW YORK 36, N. Y.**

PAPER TRADE JOURNAL CLEARING HOUSE

Help Wanted

PAPER MEN

$5,000 to $50,000

SALES • PRODUCTION • TECHNICAL

Finding and landing **THE ONE BEST JOB** requires sound analysis, careful planning, proper contacts and skillful negotiation. Paper men ourselves, and the only specialists in the world in our particular field, we assist responsible paper men to accelerate their careers by uncovering and developing **THE SPECIFIC SITUATION** that most exactly fits the needs of each individual we serve. If you seek to better yourself, and your performance to date entitles you to our endorsement, we can and will help you. Contact us in absolute confidence for information regarding procedure.

GEO. M. SUNDAY & ASSO.

PAPER PERSONNEL CONSULTANTS

6 E. Monroe Chicago ANdover 3-1970

DESIGN ENGINEER

PAPER MACHINES-EQUIPMENT

Leading upstate New York manufacturing division of major paper company has challenging opportunity for engineer experienced in the design and installation of paper machinery and related equipment.

Salary dependent on experience and qualifications.

Address resumes to: Box 58-271 care Paper Trade Journal.

0-27

PAPER CONVERTING MACHINERY DESIGNER

Wanted by manufacturer of paper and film bag machinery and printing presses.

Located in pleasant New Jersey community.

Degree not necessary—only the ability and practical background for independent design of converting machinery.

Excellent opportunity for capable man. Salary open.

Please send resume of experience. Box 58-13 care Paper Trade Journal.

TF

Help Wanted

WANTED

Machine Tender
Backtender
Winderman

for new Fourdrinier machine. Most ideal working conditions, high wage standards, Hospital insurance, Group Life insurance, Pension Plan. 30 miles from Chicago, Illinois. Address Prairie State Paper Mills, P.O. Box 1182, Joliet, Illinois.

0-27

ASSISTANT TECHNICAL DIRECTOR

INTEGRATED BLEACHED KRAFT PULP AND PAPER MILL OPERATION MIDDLE ATLANTIC AREA. CANDIDATES SHOULD HAVE FORMAL TRAINING IN PULP AND PAPER TECHNOLOGY, PREFERABLY WITH ADVANCED DEGREE. SHOULD HAVE SUBSTANTIAL EXPERIENCE IN MEDIUM AND HIGH-GRADE PRINTING AND SPECIALTY SHEETS. EXPERIENCE IN KRAFT PULP BLEACHING AND KNOWLEDGE OF MACHINE COATING ALSO DESIRABLE.

GIVE DETAILS OF EDUCATION, EXPERIENCE AND STATE SALARY REQUIREMENTS IN FIRST LETTER.

ADDRESS BOX 58-272 CARE PAPER TRADE JOURNAL.

N-3

For new pulp-paper mill to make kraft-type papers and boards, now under construction in Puerto Rico.

PAPER MILL SUPERINTENDENT

CHIEF ENGINEER

Excellent opportunity for personal and career advancement with U.S.A. company now expanding its operations in Latin America.

Send resume of experience to Box 329, Wall Street Post Office, New York 5, N. Y.

0-27

WANTED

TWO INDUSTRIAL GRADUATE ELECTRICAL ENGINEERS TO WORK UNDER CHIEF ELECTRICAL ENGINEER IN LARGE PULP AND PAPER MILL. YOUNG MEN WITH SOME EXPERIENCE IN AC AND DC ROTATING MACHINES AND CONTROL, SECTIONAL PAPER MACHINE DRIVES, MERCURY ARC RECTIFIERS AND ELECTRONICS CONTROL. SALARY OPEN. ADDRESS BOX 58-263 CARE PAPER TRADE JOURNAL.

N-10

BEATER ROOM FOREMAN

To take complete charge of fibre preparation and color matching in a well known fine paper and bleached specialties mill. Middle Atlantic location. Send resume to Box 58-244 care Paper Trade Journal.

TF

GIBBS-BROWER CO., INC.

10 Depot Plaza, White Plains, New York
Telephone—Rockwell 1-1130

Mid-West Branch:
400 Washington Building
Madison 3, Wisconsin

West Coast Branch:
5270 East Washington Blvd.
Los Angeles 22, Calif.

HAVE AVAILABLE:

PRINTING PRESSES

1—65" 6-Color Kidder Master Anilinor
1—54" 1-color Rotogravure Press
1—49" 1-color Rotogravure Press
2—41½" 4-color Hudson Sharp Flexo Presses
1—40" 4-color Hudson Sharp Flexo, Roll to Sheets
1—40" 3-color Kohlbach Flexo Press
2—36" 4 & 5 color P. W. Wolverine Hydro Presses
2—36" 2 color Champlain Gravure Presses
1—36" 5 color Koenig & Bauer German Rotogravure Press
1—30" 4-color Kidder Cello-Printer
1—26" 4-color Kidder Flexographic
1—24" 5 color Kidder Celloprinter
1—24" 3-color Rotogravure Press
1—24" 4-Color Kidder Celloprinter
2—12 x 12 New Era Presses
1—7" Young Label Printer

TAILPRINTERS

1—32" 2-color Hansel
1—30" 5-color Gregg Flexo Press
1—32" 2-color 8 pitch.
1—16" 2-color Potdevin.

POWER PAPER CUTTERS

Seybolds: Precision: 40", 50", 57" & 64"; 10Z: 40", 57" & 65"; 20th Century: 45", 54" & 60"; Dayton (6Z): 35", 40" & 84"; Holyoke: 65"; Sheridan: 36" new model, 55"; Oswegos: 38" & 44" & 34", 54" Heavy Duty; Lawson: 52" Auto Space & 52" Standard.

CAMACHINES

1—72"—10-04 8 Shear Cut.
1—72"—10-5 rebuilt and guaranteed, with water cooled brake and anti-friction bearing. Speed 2000 F.P.M.
1—66" & 2—52" 9-5.
1—62" 26-2A with 100 score cutting units
1—62" 26-3A.
1—62"—40—1—AF
1—60" Cameron Type 42, for small rolls.
1—52" Type 6 Rebuilt and guaranteed.
1—52", & 1—42", Model 24-7.
1—42" Type 9-5-A Roller Bearing 1500 fpm.
1—42" Cameron 26-7M Duplex
1—42", 1—52" and 2—62" Type 6

OTHER SLITTERS

1—60" Langston Type A.
1—50" New Type "C" Fales Slitter
1—45" Ruf Duplex Winder.
1—42" Kidder Merchant Model
1—38" and 1—40" Beck Razor Blade.
30" Fales Model—B Slitter and Rewinder
1—82" Langston Type—B
2—24", 1—30", 1—36" & 1—40" Kidder S.L. Shear cut

MISCELLANEOUS MACHINES

1—72" Hudson Sharp Wax Paper Rewinder
1—44" German spot sheeter, Reeves Drive
1—48" Hot Melt Coated and Laminator
1—54" and 1—72" Mayer Equalizer Waxing machines.
1—40" and 1—52" Parry Liner with Reeves Drive (Roll to roll and roll to sheet)
1—40" and 1—48" Asphalt Laminators.
1—60" Hot Melt Coaters & laminators
10—Hamblet Sheeters 32", 42", 45", 50", 62", 68", 72", 84", 90" and 104"
1—30" Peters Sheeter, Model UD.
1—45" Model CSHD Beck Sheeter with layboy, 1—45" Model CSH and 1—45" Model CCSH.
1—45" and 1—55" Globe Sheeter.
3—Schultz continuous roll winders, Two—12", One 18" and 1—48".
3—Polyette Polyethylene tubular bag machines
2—Model B, 10 Bagprint machines.
Die Presses: 1—60" x 14" Seeley, 1—50" x 33" Sheridan, 2—37" x 18" Sheridans and 1—44" x 22" Sheridan
1—2 Web, 1—3 Web Paper Converting Co.'s. Jr. Dispenser Napkin Machines
1—30" Double Reverse Roll Coater
3—Potdevin Bottomers
1—Weber Model 2-CN Cello Bag Machine
1—50" Hudson Sharp Embosser-tinter.
1—48" Unicraft Embosser
2—81" Dietz Facial Toilet perforators with Lawtomatic Model A Jr. Wrappers
1—54 x 26 Model 9A Sheridan Embossing Press with Automatic Rewind
1—54" x 26" Sheridan, Model 9A. Embossing Press, roll feed.
Several Hayssen Wrapping Machines

0-27

FOR SALE

BEATERS
2—1500 lb. rag beaters, Valley Iron, bandless rolls, 54" x 48", cast iron tubs.

CALENDER STACKS
1—3 roll 84" calender stack.
1—4 roll 72" Calender Stack. (Extra heavy duty).
1—5 roll 82" face.
1—5 roll 86".
1—7 roll, 84" face.

CHIPPERS
1—96" Murray 4 knife Chipper—anti-friction bearings.
1—84" 10 knife Carthage Chipper. Anti-friction bearings.
24—Chipper Knives 15¾ x 8¾, 2 slot.

COUCH ROLLS
2—Practically new, rubber couch rolls, 18" diameter x 78" face.

CREPING DRYER
1—48" diameter x 120" face, with frames, bearings, doctor blade and drive.

CRUSHER & HAMMERMILL
1—Murray Chip Crusher.
1—Jeffrey Hammermill (18" dia. rotor).

CYLINDER MOLDS
2—42" diameter x 108" face.
8—36" diameter x 94" face, hollow shafts, Very good condition.
1—30" diameter x 72" face.
1—30" diameter x 92" face.
1—36" diameter x 84" face
2—36" dia. x 54" face.
2—36" diameter x 110" face.
3—36" diameter x 90" face, 18" diameter couch rolls.
1—60" dia. x 170" face.

DIGESTERS
1—Biggs 12' 6". (Globe)

DISINTEGRATOR
1—Shartle 8" disintegrator (new) with 125 horsepower induction motor. (Totally enclosed)

DRIVES
1—Rice-Barton hypoid enclosed drive, 4 to 1 ratio.
1—#6 Reeves vertical—anti friction bearings, totally enclosed.
1—Sandy Hill right angle 50 H.P. (4.75 to 1).
1—Jones 21 H.P., ratio 10 to 1 (enclosed angle drive)
1—#4 Reeves Drive
2—Waterbury Hydraulic Variable speed line shaft drives (from 40 to 100 H.P.)
3—Rice Barton enclosed drives, double reduction (14 to 1 one end, 4 to 1 other end)
1—Beloit hypoid enclosed drive 60 h.p. 5 to 1 ratio.

DRYERS
1—28" diameter x 84" face
2—30" diameter x 40" face with bearings
2—30" diameter x 48" face with bearings.
60—36" diameter x 84" face, complete with frames, gears & bearings.
4—48" dia. x 52" face with frames, gears, bearings
1—36" diameter x 44" face
3—36" diameter x 76" face.
5—36" diameter x 84" face, anti friction bearings and gears.
22—28" diameter x 40" face with frames, gears and felt rolls
1—16" diameter x 54" face (steel)
6—48" diameter x 130" face.
2—Cooling Drums, bronze 36" x 128", with frames, gears & necessary rolls to make up the unit. (After dryers)

EMBOSSING CALENDERS
1—43" 3-Roll Embossing Calender.
1—62" 2 roll Embosser

EXTRACTOR ROLLS
1—Extractor roll, 26" diameter x 104" face
1—Rice Barton & Fales, Extractor Roll, 26" diameter x 104" face

FELT CONDITIONERS
1—Scofield, 125" face
1—Scofield, 154" face

FELT ROLLS
50—Brass Felt Rolls, with Brass Journals, 72" face x 5" dia.

FLAT SCREENS
1—8 Plate "Packer"
1—12 Plate "Packer"
1—16 Plate "Packer" late type roller shoes.

HOGS
2—Mitts Merrill Type 15 C.F.

JORDANS
1—Noble & Wood Mammoth
1—Noble & Wood Monarch, Type D.

LABORATORY EQUIPMENT
1—Bauer-McNett Fibre Classifiner, monel tanks, complete with copper screen plates.
1—Basis weight scale
1—16" diameter x 24" face Laboratory High Pressure Dryer
1—Press Roll 6" diameter 24" Face, steam jacketted
1—2' Shartle Hydrapulper
2—8" x 8" Valley Sheet dryers
1—12" x 12" Valley Sheet dryer
1—6" diameter Hydraulic Press
1—25 lb. Valley Laboratory Beater, with washer.
1—Experimental Digester (High Pressure)
1—15—20# E. D. Jones Beater
1—Sutherland Refiner
2—Schopper-Riegler Freeness Testers
1—8" x 8" Williams Sheet Mold
2—8" x 8" Valley Hydraulic Presses
1—Williams Smoothness and Formation Tester
1—6" Mayer Coater, all rolls and pans bronze and steam heated. Used for brush, knife, reverse roll or dip coating, also waxing & plastic coating.
1—Clark Softness & Stiffness Tester

LAMINATING MACHINES
2—84" Asphalt laminators.

MISCELLANEOUS
1—#1 Miami Selectrap

PACKAGING MACHINE
1—Morpac Packaging Machine (Details on request).

PRESS ROLLS
2—Chilled iron, chrome plated 9" x 72"
1—Chilled iron, chrome plated 12" x 100"
1—Chilled iron, chrome plated 10" x 74"
8—sets (1 rubber, 1 chrome steel) 74" face x 15" dia., complete with bearings.

PULPERS
4—Dyno-Pulpers

PUMP
1—Morris-10,000 g.p.m. 25 ft. head (all bronze)

REELS
1—86" 2 bowl reel.
1—84" 3 bowl revolving reel.
1—100" Rice Barton 2 bowl Reel, heavy duty.
1—123" 3 bowl Revolving Reel
1—134" 2 drum
1—72" Downingtown Reel, 2 bowl.

REFINERS
1—#2 Claflin refiner
1—Dilts Classifiner, practically new
1—Rice Barton Dynofiner, details on request
1—Dilts, Hydrafiner, stainless steel filling, anti-friction bearings, excellent condition, including 125 h.p. motor
1—12" Wiener Refiner, with 200 h.p. motor

REGULATORS
1—Bird Consistency Regulator
1—Trimbey Consistency Regulator

ROLLS
Felt, Table, Press, Breast, Couch, etc. Various sizes and types. (Bronze, Rubber, Iron, etc.)

ROTARY SCREENS
6—Trimbey Sr. Pulp Screens.
1—#1A Bird, copper vat.
2—APMEW Rotary Pulp Screens.

SAVEALL
1—LaMorte, 48" diameter x 82" face cylinder mold.

SCREEN PLATES
Bird Rotary screen plates.

SHEETER
1—132" Hamblet heavy duty duplex sheeter, anti-friction bearings throughout, including layboy and backstand.
1—84" Hamblet, duplex, back stands.

SHREDDER
1—16" "Swift" Paper Shredder

SLITTERS & WINDERS
1—32" Cameron Type 9
1—42" Cameron Type 9
3—42" Cameron Type 6
1—42" Cameron Type 8
1—42" Cameron Type 26-2A
1—42" Cameron Type 26-3A. (Duplex)
3—50" Cameron Type 6
1—62" Cameron Type 6
1—62" Cameron Type 8
1—72" Cameron Type 9
1—84" Cameron Type 12
1—86" Two Drum Moore & White 50" diameter rewind.
1—96" 4 drum Moore & White winder
1—128" Beloit Shear cut winder, drive and variable speed motor.

SLITTING DEVICE
84" Quick change slitting device shear cut, complete, practically new.

STEAM JOINTS
18—3" Johnson steam joints (new)

STOCK MAKER
1—Morden Stock Maker, 150 h.p. motor

STOCK PUMP
1—10 x 20 Shartle Duplex
1—10 x 20 Shartle Triplex

STRAINER
1—Elliott Twin Strainer, Type R

SUCTION BOXES
2—150" Stainless steel Suction Boxes

SUCTION COUCH SHELL
1—Downingtown suction couch shell only, 127½" face x 26" diameter

SUCTION COUCH ROLLS
1—Beloit, 36" diameter x 246" face, SKF bearings.

SUCTION FELT ROLLS
1—Gilbert & Nash 122" face
1—Beloit Rubber Covered Suction Felt Roll 109 face x 20½" diameter.

SUCTION PRESS SHELL
1—14" diameter x 100" drilled face, suction Press Shell only.

SUPER CALENDER STACK
1—9 Roll 56"

TABLE ROLLS
22—Rubber Covered 10" diameter x 246" face
30—4" dia. x 130" face (will cut to size)

THICKENERS
2—Iron End Vats with 36" diameter x 84" face Cylinder Molds and 20" diameter couch rolls, including spare cylinder mold and spare couch roll, all anti friction bearing equipped.

TOILET WINDERS
2—72" Hudson-Sharp (Surface type winder)

TRIMMER
1—84" Seybold

VACUUM PUMPS
3—#1 Nash Hytor vacuum pumps
1—#7 Nash Hytor vacuum pump with 75 h.p. synchronous motor.
2—Connersville, 14 x 20
1—H-7
1—#3 Nash Hytor
1—#4 Nash Hytor, with motor.
3—L-5 Nash Vacuum Pumps
1—L-6 Nash Vacuum Pump

VATS
2—D. J. Murray Co. Vats, iron ends, for 42" x 120" cylinder molds, overflow and counterflow.

VIBRATING SCREENS
2—Hummer electric Vibrating Screens, stainless steel, new
1—Selectro 2 stage, 5 ft. x 10 ft.
1—36" x 48" Vibrating Screen

WEB GUIDE
1—110" Stanford Constant Tension Unit, air operated.

YANKEE DRYERS
1—140" face x 12' dia., anti-friction bearings & stands.
1—84" diameter x 56" face.

Paddy Ross, Pres.

J. J. ROSS COMPANY

Ben Kurs, Treas.

377 Frelinghuysen Ave.* Tel—Bigelow 3-3720 Newark 12, N. J.

Help Wanted

HELP WANTED MALE

Chemist or Chemical Engineer, 3-5 years experience in bleached kraft and/or specialty paper mill for an Ontario integrated bleach kraft pulp and paper mill. Involves work in mill control and development.

Please furnish complete particulars as to age, experience, marital status, references, salary to

Box No. **58-274** care Paper Trade Journal. N-10

ELECTRICAL ENGINEER

Excellent opportunity for graduate Electrical Engineer in a Southern four machine Pulp and Paper Mill which is generating and using 32,000 KW of electrical energy. This is a staff position reporting to the General Superintendent, Power and Maintenance, and will allow close contact with Plant Engineering, Power and Electrical Maintenance. At least three years industrial experience is required. Please send resume of experience and salary requirements to:

Employment Manager

Camp Division

Union Bag-Camp Paper Corporation

Franklin, Virginia O-27

WANTED

Young recent graduate in science or engineering with a few years experience in pulp and paper manufacture for interesting job in New York City office. Replies treated in greatest confidence. Please write Box 58-267 Paper Trade Journal. TF

PULP & PAPER MILL EQUIPMENT

Training, New York, locate in Middle West as exclusive representative. Age 30-40. Send complete resume including salary. Box 58-253 care Paper Trade Journal. N-17

WANTED

Technical man with practical experience in Bagasse and Straw Pulp making, able to take complete charge of pulp mill in Mexico. Send full particulars to Box 58-262 LOCKWOOD TRADE JOURNAL CO. INC., 15 W. 47th Street, New York 19, N. Y.—U.S.A. N-10

We have an opening in new product and technical service work, at our Naugatuck Connecticut laboratories. This is an opportunity for a Chemist or Chemical Engineer who has had mill experience in the application of latex coatings to paper.
Send resume to: Mr. C. G. Durbin,

NAUGATUCK CHEMICAL DIVISION
United States Rubber Company
Naugatuck, Connecticut O-27

SALESMEN

Experienced—for modern solid bleached sulphate board mill. Man for New England. Also for Eastern states. Salary and expenses. No brokers or agents. Our own sales staff knows of this advertisement. Send full details in complete confidence. Box 58-264 care Paper Trade Journal. O-27

Situations Wanted

A PRACTICAL IMAGINATOR IN SPECIALTY PAPERS AND SEVERAL CONVERTING FIELDS, (NOW A TECHNICAL DIRECTOR) AVAILABLE AS:

DIRECTOR OF DEVELOPMENT AND RESEARCH

FOR YOU WHO NEED NEW PRODUCTS AND THE OLD IMPROVED.
A RECORD OF VALUABLE IDEAS, BASED ON EXPERIENCE, ORGANIZED KIOWLEDGE, AND THE FUNDAMENTAL APPROACH.
CAN ORGANIZE AND TRAIN, AND A PRETTY FAIR SALESMAN OF IDEAS. REPLY BOX 58-270 CARE PAPER TRADE JOURNAL. N-3

French Engineer with fluent English specializing in the sale of pulp and paper-making machinery seeks agencies for representation of American firms in France.

Write: **MR. MAURICE VAUCHER**
Boulssy—Saint Antoine
(Seine et Oise) Paris 1, France O-27

POSITION WANTED

Sales & Service representative allied to paper industry, Eastern States. Over 10 yrs. experience in sales of Chemicals & Process Equipment.

Write reply box 58-265 care Paper Trade Journal. O-27

SUPERINTENDENT AVAILABLE — Interested in challenging assignment which will utilise my training and experience in cylinder specialties. Address Box 58-258 care Paper Trade Journal. O-27

PACKAGING ENG. seeks relocation to mid-west in sales or sales promotion. Eight years exp, materials, containers, proposals, Govt. contracts. Address Box 58-268 care Paper Trade Journal. O-27

WANTED—COATING POSITION — Temporary or permanent. Should you have trouble with Coating, write Box 58-269 care Paper Trade Journal. O-27

PULP & PAPER MILL M. E., desires connection with reputable company. 25 years experience Plant and Project Engineer. Excellent references. Address Box 58-273 care Paper Trade Journal. N-10.

For Sale

FOR SALE

LABORATORY COATING EQUIPMENT

1—6" Mayer—all bronze construction—rolls and pans steam heated—anti-friction bearings—used as coater on paper and fabrics, for roll and brush coating, impregnating, waxing and plastic coating — complete with motor and spare parts.

1—3-roll Butterworth & Sons Padder — 3¼" diameter x 10" face rubber covered rolls, stainless steel pan and carrying rolls, air operated nips — anti-friction bearings — including motor.

1—20" knife coater — with motor and spare knives.

Box 58-259 care Paper Trade Journal. O-27

BARGAINS

IMMEDIATE DELIVERY

1—128" B & S 10-Roll Calender Stack. King Roll 24" Dia. Heavy box frames, full set of doctors. Excellent Condition.
1—86" Farrel 8-Roll Calender Stack. Anti-friction Bearings. Excellent Condition.
26—36" x 72" Complete Dryer Section, Stack, Drives, Etc.
10—48" x 150" Pusey & Jones Dryers.
1—84" Kamyr Machine, Complete. 75 ton per day output.
1—E. D. Jones Majestic Jordon No. A-482. New S.S. Fillings. Like New.
1—E. D. Jones Imperial Jordon, S.S. Fillings
1—Noble & Wood Mammoth Jr. Jordon, S.S. Fillings
1—Monarch Jordon, Model SP, Serial #21095, no fillings. Direct connected to a 75 H.P. G.E. 400 RPM Motor.
1—14 Plate Impco Flat Screen, Dunbar Drive, Bronze Vat. Direct Motor Driven.
1—A.P.P. Rotary Centrifugal Pulp Screen, 40" Dia. x 42" Face. Serial #1274227. Like new. Capable of 40 ton groundwood pulp per day.
1—Trimbey Senior Rotary Screen.
2—Impco Rotary Pulp Screens.
3—No. 3 Impco Rotary Knotter Screens. S.S. Plates.
1—110" Pusey & Jones 2-Drum Winder. A.F. Bearings.
1—Hudson Sharpe Toilet Tissue Converting Machine. Ser. #2123. 8 Spare Mandrel Bars.
1—42" Dia. x 110" Face Pope Type Reel. Excellent Condition.
1—25" Dia. x 156" Face Sandusky Suction Couch. Bearings & Stands.
1—22" Dia. x 138" Perforated Face Sandusky Suction Couch, Bearings & Stands.
1—10-Knife Carthage Chipper with Anti-friction Bearings.
1—54" Dia. x 48" Face Valley Iron Tub Beater.
1—Dilts 53" Dia. x 60" Face—2000 lb. Iron Tub Beater. S.S. Extractor Type Hood.
1—Seybold Knife Grinder. Size G. 84" Table. Serial #4X802.
1—Sandy Hill Sulphur Burner. Complete.
2—#2 Bird Screens with Copper Vats & S.S. Plates.
1—Tugboat Annie Pulper.
1—Worthington Air Compressor, Model 5TR2. 2-Stage, Air Cooled. 5 H.P.
1—C.P. 12 x 10 Air Compresser, 100# Pressure.
1—I.R. 7 x 7 Air Compresser. 100# Pressure.
1—No. 244 Mattison 18" Core Cutting Saw —5 H.P. 3450 RPM, 3/60/220-440 volt.
1—90 H.P. Terry Turbine, Type G-4000/1000 RPM. For Paper Machine Drive. Complete.
1—No. 2 Jones Pulper. A.F. Bearings. Spare Worm.
1—36" Putman H.D. Lathe—15' Centers.
1—24" x 6' L & S Geared Head, H.D. Machine Lathe. Taper Attachment, Hollow Spindle, Motorized.
1—350 H.P. G.E. 2200 Volt, 450 RPM Motor with G.E. 350 H.P. 2200 Volt, Type CR7065-M5 Controller.
1—100 H.P. U.S. 3/60/220-440 Volt, 900 RPM, D.P. Motor.
1—A.C. 75 H.P. 3/60/220-440 Volt, 720 RPM, T.E.F.C. Type ARZX Motor.
1—A.C. 60 H.P. 3/60/220-440 Volt, 720 RPM, T.E.F.C. Type ARZX Motor.
1—G.E. 100 H.P. MG Set, 250 Volt D.C.
1—250 H.P. Ingersoll Rand Diesel Engine Generator Set—G.E. Generator, 150 KW, 480 Volts, 720 RPM.

Save over 50% on your requirements for New Jordon Fillings, S.S., Bronze & Carbon Steel.

Gear Reducers, P.I.V. Drives, Generators, B.B. Pumps, Stock Pumps, Plunger Pumps, Etc.

1000 Electric Motors from ¼ H.P. to 600 H.P. in Stock.

The above is but a small part of the inventory we carry. We can furnish you with almost anything in the line of paper mill, electrical and machine shop equipment.

Write—Wire—Phone For Your Needs

RUDERMAN MACHINERY EXCHANGE
GOUVERNEUR, NEW YORK
Telephone 333-334
TF

For Sale

COATING RODS FOR SALE

Equalizers, Mayer Rods, Metering Rods. Wire sizes #3 (.003) to #50 (.050). Music spring wire and stainless steel wire.

DeNeve & Consler Co.

8 Boston St. Phone HA 6-4364 Rochester 21, N.Y.
D-26

For Sale

FOR SALE

158' Jeffrey Paper Roll Conveyor w/2-15 HP A.C. motors
54" Hamblett 2 knife sheeter w/layboy
44", 50", 65" Seybold cutters

Apex Printing Machinery Co. Inc.

New York 12, N. Y. 210 Elizabeth St. WOrth 6-0070
O-27

Wanted

WANTED

One used IMPCO No. 4 Centrifugal Screen in good mechanical condition. Write to Fabricas de Papel Loreto y Peña Pobre, S.A., Apartado 31379, México 20, D.F., Mexico, giving price and full information.
O-27

Focus on this list... for fact-filled books you need!

University of Maine Lectures on Pulp and Paper Manufacture (Series No. 2)

Edited by Professors Lyde Jenness and John Lewis, the 375 page book publishes a series of lectures given by industry experts at the University of Maine on a complete range of pulp and paper making subjects. Valuable as a textbook and reference. $5.00.

Pulp Paper and Board Mill Maintenance

Based on actual in-plant experience and prepared by well known men in the industry, this text in 122 pages relates maintenance procedures and practices for kraft mills, semi-chemical mills, bleach plants fourdrinier and cylinder machines, stock preparation machinery and other mill equipment. $2.50.

Modern Methods of Mechanical Pulp Manufacture

Utilizing his extensive knowledge and association with groundwood manufacturing methods on both sides of the Atlantic, Dr. Klemm, one of the world's foremost authorities on groundwood pulp production, comprehensively covers all aspects of the subject in his new 241 page book just off the presses. $5.00.

Pulp and Paper Mill Instrumentation

This is the first book ever published which exclusively deals with automatic control, measurement, and other forms of instrumentation as specifically applied to pulp and paper making. 117 useful pages by E. J. Cole and M. Todd. $3.50.

Atlas of Commoner Paper Making Fibers

Written by F. D. Armitage and designed for readers who are interested or employed in the scientific investigation of paper problems, this book collects under one cover details on microscope use, identification methods, and photomicrography techniques. 170 pages. $8.85.

Pulp and Paper Manufacture

Prepared under the direction of the Joint Committee on Vocational Education representing the pulp and paper manufacturers of Canada and the U.S., these four volumes were put together by Editor-in-Chief J. Newell Stephenson. Volume 1: 'Preparation & Treatment of Wood Pulp' 1043 pages, $10.00. Volume 2: 'Preparation of Stock for Paper Making' 587 pages, $7.50. Volume 3: 'Manufacture and Testing of Paper & Board' 945 pages, $11.00. Volume 4: 'Auxiliary Paper Mill Equipment' 732 pages, $9.00.

Order These Books From

Lockwood Trade Journal Co., Inc., 49 West 45th Street, New York 36, New York.

ADVERTISERS

Adell Chemical Co. ..... —
Albany Felt Co. 21
Allied Chemical Corp. Nitrogen Div. ..... —
Allis-Chalmers Mfg. Co. ..... —
Aluminum Co. of America ..... —
American Bitumuls & Asphalt Co. ..... —
American Bridge Div., U. S. Steel Corp. ..... —
American Cyanamid Co., Paper Chemical Dept. ..... —
American Cyanamid Co., Dyes Dept. ..... —
American Cyanamid Co., Organic Chem. Div. ..... —
American Cyanamid Co., Pigments Dept. ..... —
American Paper & Pulp Co. Inc. .....Cover 3
American Potash & Chem. Corp. ..... —
American Steel & Wire Co. .. —
Ames Company ..... —
Anglo Paper Products Ltd. .. 39
Annin Company ..... —
Antara Chemicals, Sales Div, Gen Aniline & Film Corp. .. —
Apmew, Inc. ..... —
Appleton Machine Co., The ..... —
Appleton Wire Works ..... —
Appleton Wood Products Co. . 51
Armco Drainage & Metal Products ..... —
Armco Steel Corp. ..... —
Armstrong Machine Works .. —
Arnold Hoffman & Co. ..... —
Asten-Hill Mfg. Co. ..... —
Aurora Pump Div., N. Y. Air Brake ..... —

Babcock & Wilcox Co. ..... —
Bahr Bros, Mfg, Co. ..... —
Bailey Meter Co. ..... —
Bauer Bros. Co. ..... —
Beloit Iron Works Co. ..... —
Bird Machine Co. 15
Bixby, R. W., Inc. ..... —
Black-Clawson Co. 49
Blaw-Knox Company ..... —
Bolton & Sons 50
Borden Co. ..... —
Bowsher Co., N. P. ..... —
Brandon Sales, Inc. ..... —
Broughton, A. E. & Co. 20
Brown Company ..... —
Buckeye Cellulose Corp. ..... —
Buffalo Forge Co. ..... —
Buffalo Pumps, Inc. ..... —

Cady, E. L., & Co. ..... —
Calgon Company .....Back Cover
Cambridge Instrument Co. .... —
Cameron Machine Co. 3
Capitol Products Corp., Read Standard Div. ..... —
Carthage Machine Co. ..... —
Central National Corp. ..... —
Central Soya Co, Chemurgy Div. ..... —
Chicago Bridge & Iron Co. .... —
Ciba Company ..... —
Cities Service Oil Co. ..... —
Clark-Aiken Company ..... —
Classified Advertising 52
Clearing House 52
Cleveland Crane & Engrg. Co. —
Colonial Plastics Mfg. Co. ... —
Columbia-Geneva Steel Div., U. S. Steel Corp. ..... —
Columbia-Southern Chem. Corp. Sub. of Pittsburgh Plate Glass Co. ..... —
Combustion Engrg. Co. ..... —
Conveyair Sales Ltd. ..... —
Corn Products Sales Co. 45
Crane Co. ..... —
Curtiss-Wright Corp. ..... —

Davis, Frank H., Co., Inc. .... —
DeZurik Corporation ..... —
Dewey & Almy Chem. Co. .. 23
Diamond Alkali Co. ..... —
Dicalite Div., Great Lakes Carbon Corp. ..... —
Dierks Paper Co. ..... —
Dilts Machine Works 49
Dixie Bearings Div. of Bearings, Inc. ..... —
Dodge Mfg. Co. ..... —
Dorr-Oliver ..... —
Dow Chemical Co. ..... —
Dowell, Inc. ..... —
Draper Bros. Co. ..... —
Dryden Paper Co., Ltd. .... —
du Pont, E. I., de Nemours & Co., Dyestuffs Dept. ..... —
du Pont, E. I., de Nemours & Co., Electrochemical Dept. .. —
du Pont, E. I., de Nemours & Co., Pigments Dept. ..... —

Eaton Manufacturing Co. ... —
Ebasco Services, Inc. ..... —
Egan Frank W., & Co. ..... —
Elixman Paper Core Co. ..... —
Elliott Company ..... —
English China Clays Sales Corp. ..... —

FabriValve Company ..... —
Fairbanks Morse & Co. ..... —
Falk Corporation ..... —
Farrel-Birmingham Co., Inc... —
Fibrecast Company ..... —
Fife Manufacturing Co. ..... —
Fitchburg Screen Plate Co. ... —
Foxboro Co. ..... —
Fraser Companies, Ltd. 50
Frederick Iron & Steel Co. .. —

Garlock Packing Co. ..... —
Gaspesia Sulphite Co. Ltd. .. 39
Gates Rubber Company ..... —
Geigy Chemicals Corp., Geigy Dyestuffs Div. ..... —
General Dyestuffs Co. ..... —
General Electric Co. ..... —
General Tire & Rubber Co. ... —
Gibbs-Brower Co. 52
Gilbert & Nash Co. ..... —
Glidden Company 29
Goodrich Industrial Prod. Co. —
Gottesman & Co. ..... —
Grace, W. R., & Co., Dewey & Almy Chem. Div. 23
Graton & Knight Co. ..... —
Grauer Tank & Mfg. Co. ..... —
Grinnell Co., The ..... —
Gruendler Crusher & Pulv. Co. —
Gulf Oil Corporation ..... —
Gurley W. & L. E. ..... —

Hagan Chemicals & Controls Corp. ..... —
Hamblet Machine Co. ..... —
Harbison-Walker Refractories. 19
Hendrick Mfg. Co. ..... —
Hercules Powder Co. ..... —
Hills-McCanna Co. ..... —
Hooker Electrochemical Co. .. —
Huber, J. M., Corp. ..... —
Hudson Sharp Machine Co. ... —
Hungerford & Terry, Inc. ... 49
Huyck, F. C. & Sons ..... —

Improved Machinery, Inc. ... 17
International Paper Co. ..... —

Jenkins Brothers ..... —
Johns-Manville Corp. ..... —
Johnson Corp., The 50
Johnson Alvin H., & Co. 44
Jones, E. D., & Sons Co. .... —
Jones & Laughlin Steel Corp. —

Kalamazoo Tank & Silo Co. .. 44
Kidder Press Co. ..... —
Knox Woolen Co. ..... —
Koppers Company ..... —

Langston, Samuel M., Co. .... —
Link Belt Co. ..... —
Lockport Felt Co. ..... —
Lockwood Greene Engineers .. 48
Lodding Engineering Co. 28
L. O. F. Glass Fibers Co. .. .. —
Lukens Steel Co. ..... —
Lukon, Inc. ..... —
Lunkenheimer Co. ..... —
Lyddon & Co. ..... —

Magnus Metal Corp. ..... —
Main, Charles T., Inc. 48
Manchester Machine Co. .... —
Marathon—A division of American Can ..... —
Marathon Electric Mfg. Corp. —
Mead Pulp Sales, Inc. ..... —
Meincke, A. M. & Son ..... —
Merrick Scale Co. ..... —
Minneapolis-Honeywell ..... —
Mixing Equipment Co. ..... —
Montaque Machine Co. ..... —
Moore & White Co. ..... —
Morden Machines Co. ..... —
Mt. Hope Mchy. Co. ..... —
Mt. Vernon Mills Inc. ..... —
Murray, D. J., Mfg. Co. .... —

Nash Engineering Co. 47
National Lead Co., Magnus Metal Div. ..... —
National Starch Products, Inc. 5
National Tube Div., U. S. Steel Corp. ..... —
Nelson Company ..... —
New Jersey Zinc Co. ..... —
Nichols Eng. & Research Corp. 22
Noble & Wood Mch. Co. ..... —
Nopco Chemical Co. ..... —
Northeastern Paper Sales 39
Norton Co. ..... —

Oakite Products Inc. ..... —
Ohio Injector Co. ..... —
Olin Mathieson Chem. Corp. .. 46
Osborne Paper Mill Equip. Corp. .. .. —

Paper Converting Machine Co. .. —
Parsons & Whittemore ..... —
Patton Mfg. Co. ..... —
Perkins, B. F., & Sons, Inc. .. —
Perkins Goodwin Co. ..... —
Personnel Service Associates .. —
Pioneer Paper Stock Co. 48
Pittsburgh Piping & Equip. .. —
Poirier Control Co. ..... —
Potdevin Machine Co. ..... —
Powell Valves 4
Price & Pierce, Ltd. ..... —

Railway Supply & Mfg. Co. .. 38
Raymond, Chas. P. Service Inc. ..... —
Read Standard Div. of Capitol Products Corp. ..... —
Ready Power Co. ..... —
Record Fdy. & Mch. Co. ..... —
Red Ray Mfg. Co. ..... —
Rice Barton Corp. 10
Riedel, Gus & Son ..... —
Riegel Paper Corp. ..... —
Rohm & Haas Co. ..... —
Ronningen-Petter Co. ..... —
Roosevelt Paper Co. ..Front Cover
Roots-Connersville Blower Div. Dresser Industries ..... —
Ross, J. J., Co. 53
Ross-Midwest Fulton Co. ..... —
Ross Paper Machinery Co. .. —
Ruderman Mach. Exchange .. 54
Rust Engineering Co. 48
Ryerson, Jos. T., & Son. .... —

Sandoz Inc. ..... —
Sandy Hill Iron & Brass Works ..... —
Scapa Dyers Inc. ..... —
Seaboard Air Line R. R. Co.. 50
Shartle Div., Black-Clawson Co. 49
Shawinigan Resins Corp. .... —
Sheffield Corp. ..... —
Shell Chemical Corp. ..... —
Shuler & Benninghofen ..... —
Signode Steel Strapping Co. .. —
Simplex Wire & Cable Co. .... —
Sinclair Company ..... —
Sirrine, J. E., Co. ..... —
Smidth, F. L., & Co. ..... —
Soderhamn Mch. Mfg. Co. .... —
Sonoco Products Co. ..... —
Southworth Machine Co. ..... —
Spraying Systems Co. 51
Sprout Waldron & Co. ..... —
Stadler Hurter & Co. ..... —
Staley Mfg. Company ..... —
Stanley Steel Strapping ..... —
Statement of Ownership ..... —
Stebbins Engrg., Co. ..... —
Stein, Hall & Co. ..... —
Stone & Webster Engrg. Corp. —
Stowe-Woodward, Inc. 8
St. Regis Paper Co. ..... —
Sunday, Geo. M. Assoc. 52
Swenson Evaporator Co. ..... —

Taylor Instrument Co.s ..... —
Taylor Stiles & Co. 49
Tennessee Coal & Iron Co. ... —
Tennessee Corp. ..... —
Testing Machines ..... —
Texas Co. 6
Texas Gulf Sulphur Co. ..... —
Thiele Kaolin Co. ..... —
Thomas Paper Stock Co. ... 50
Thurso Pulp & Paper Co. .... —
Titanium Pigment Corp. .... —
Toledo Scale Corp. ..... —
Torrington Co. ..... —
Towmotor Corp ..... —
Trent Tube Co. ..... —
Turner Halsey Co. ..... —

United Carbon Co. Inc. ..... —
United Engrg. & Fdy. Co. .. 41
U. S. Industrial Chem. Co. .... — Div. of National Distillers & Chem. Corp. ..... —
U. S. Rubber Company ..... —
United States Steel Export ... —
United States Steel Supply Co. —
U. S. Steel Corp. ..... —

Valley Iron Works ..... —
Vanderbilt, R. T., Co. ..... —
Virginia Smelting Co. ..... —

Waldron, John Corp. ..... —
Walworth Co. ..... —
Weber, H. G., Company .... —
West End Chemical Div. Stauffer Chem. Co. ..... —
Westvaco Chlor-Alkali Div., Food Mchy. & Chem. Corp. Cover 2
West Virginia Pulp & Paper Co. 51
Weyerhaeuser Timber Co. ... —
Whiting Corp. ..... —
Wiggins Teape & Alex Pirie —
Williams Apparatus Co. ..... —
Williams-Gray Co. ..... —
Wisconsin Wire Works ..... —
Wyandotte Chem. Corp. ..... —
Wyatt Metal & Boiler Works —

Yale & Towne Mfg. Co. ..... —
Yarnall-Waring Co. ..... —

PAPER TRADE JOURNAL BUSINESS STAFF

New York 36, N. Y. 49 W. 45th St. Plaza 7-2370

Arthur E. Gordon, Business Mgr.

Frederick B. Grosse, Production Mgr.

Francis J. Gordon — Alrick Man

CHICAGO 3, ILL.: H. K. Vinton
Room 1020, 79 W. Monroe St. CEntral 6-2784

PITTSBURGH 11, PA.: H. L. Poulton
610 Pennridge Road. HEmlock 1-1571

MIAMI, FLA.: Hal Moore
279 N. E. 79th Street

Rep. by McDonald-Thompson Co. In:

LOS ANGELES 5, CAL.: R. Teeter
3727 W. Sixth St., DUnkirk 7-5391

SAN FRANCISCO, CAL.: Cal Wood
625 Market St. YUkon 6-0647

DENVER 2, COLO.: Bob Heidersbach
222 Colorado Nat'l Bank Bldg. KEystone 4-4669

TULSA 4, OKLA.: T. R. Trautmann
2010 S. Utica. Riverside 3-1981

PORTLAND 1, ORE.: F. P. Ostrow
1423 S.W. Columbia St. CA 2-5146

HOUSTON 6, TEXAS: F. Vickrey
Room 214, 3217 Montrose Blvd. JAckson 9-6711

SEATTLE 4, WASH.: H. Abney
1008 Western Ave. MA 3-3766

Foreign Representatives

GERMANY: Herbert Morgenbesser
Kohlgarten 3, Hamburg—F. U. Phone: 59-82-03

UNITED KINGDOM: H. R. Vaughan
Publishing & Distributing Co., Ltd.
177 Regent St., London W 1, England Regent 6534

HUGHES PRINTING CO.
EAST STROUDSBURG, PA.

JAGENBERG

JAGENBERG Synchro-Fly Cutter Model 'DQSM/GI' in a German mill, with hydraulic stack equalizing device and slat type conveyor, designed for continuous operation from 80" diameter rolls.

Introducing a new principle, well tried and proven abroad

The JAGENBERG Synchro-Fly® Sheeter

- handling toughest board up to a basis weight of 1,850 Lbs/3,000 sq. ft., or caliper .150 (single web) with unrivalled accuracy,
- ensuring clean cut and right angled edges free from fluff and ridging even on high calipers.
- In connection with board machines, JAGENBERG's Single and Duplex Cutters provide for changing both slitter and cutter sizes during full operation; deflector for defective sheets, minimum waste.
- When used as a separate cutter (off the machine), continuous operation can be provided with the aid of brake generators, automatic web tension and edge controls, automatic web feed during roll changes.
- Automatic sheet squaring.
- All driving components enclosed in oil bath gear boxes in the side frames.
- Due to genuine shear cutting action, fly knives stay sharp for up to 3 years without regrinding.

These and more outstanding advantages are offered by the JAGENBERG Synchro-Fly.

® JAGENBERG trade mark for two rotary fly knives synchronized with web speed during the cut.

JAG

JAGENBERG

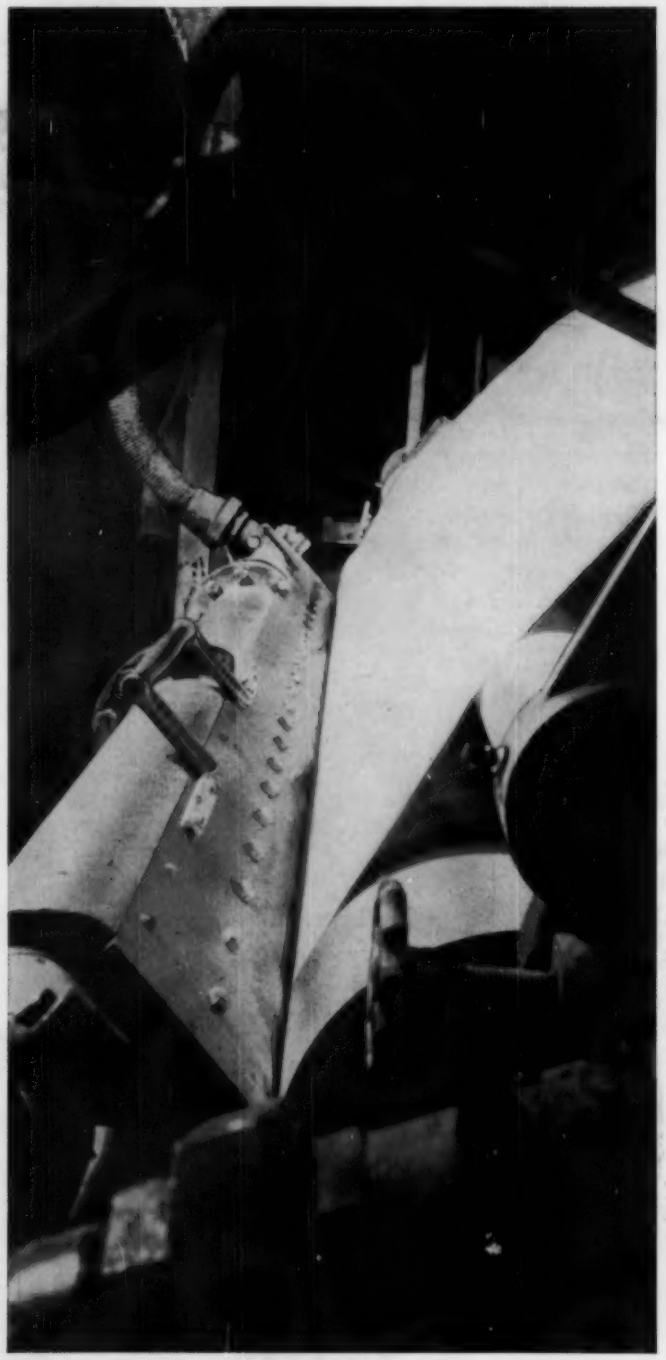
Exclusive American Agents:

AMERICAN PAPER & PULP CO., INC.

300 Fourth Avenue, New York 10, N. Y

CALGON*

...in coating formulas provides



- **BETTER PIGMENT DISPERSION**
- **HIGHER SOLIDS CONTENT**
- **IMPROVED BONDING**

Calgon's effectiveness in coating formulas for both papers and box-boards is attested by the fact that two out of three of the leading producers of coated papers choose Calgon for their coating formulas.

Calgon leads because it assures:

BETTER PIGMENT DISPERSION. Calgon's efficiency as a dispersive of clay, titanium dioxide, precipitated calcium carbonate and other pigments results in better finished coated stock.

BETTER COATING COLORS. Coating colors are superior when Calgon is used because of improved flow properties and because higher solids concentration can be used.

BETTER SURFACE COATINGS. Calgon in the formula greatly improves the bond between the coating and the paper stock.

Calgon can help in many other ways. If you have a specific problem, Calgon Technical Service stands ready to assist you in finding a solution. Tell us about your problem, or write for a copy of "Calgon and Its Applications in the Pulp and Paper Industry."

*Calgon is the registered trade mark of Calgon Company for its sodium phosphate glass (sodium hexa-metaphosphate) products.

CALGON COMPANY

DIVISION OF **HAGAN** CHEMICALS & CONTROLS, INC.
HAGAN BUILDING, PITTSBURGH 30, PENNSYLVANIA
DIVISIONS: CALGON COMPANY, HALL LABORATORIES